WHOLESALER'S SALESMAN

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Director of Circulation:
Please change my address on WHOLESALER'S SALESMAN

From .....

.....

To .....

.....

Signed .....

Listen to the Philharmonic Symphony Program over the CBS network Sunday afternoon 3:00 to 4:30 E.W.T. Carl Van Doren and a guest star present an interlude of historical significance.

*REG. U. S. PATENT OFFICE

UNITED STATES

TIMES and TRENDS

It's Our Problem In the second week of June 1943 the country's electric power output passed the 4 billion kwh mark, which was 16.7 percent above the corresponding period of 1942 and—more important—a new all-time record.

Interpreting the significance of those figures in terms of post-war business, they mean to us that the entire electrical industry in all its branches will stand confronted with the most stupendous sales building problem that it has ever faced—that of putting those record billions of available kwh to work on peace-time pursuits.

It is unthinkable, that any of those steam generating plants, those hydro-electric plants, that now are turning the wheels of war production should be allowed to stand idle. Yet that is exactly what will happen unless the industry, as an industry, starts now to plan for a load-building campaign of unprecedented proportions.

Load building is merely the utilities' term for what manufacturers and wholesalers call selling . . . SELLING new motors, controls, electronic devices, whole new power and lighting installations to war-worn plants; SELLING new lighting, service, intercommunicating equipment, electronic protective devices to hospitals, commercial buildings, institutions, stores; SELLING modern wiring, lighting fixtures and convenience equipment to millions of present home owners; SELLING complete new wiring systems for millions of inadequately equipped "defense" housing units; SELLING electric service and endless numbers of appliances and labor saving electric tools and machines to millions of farms and, finally SELLING radio sets, refrigerators, washing machines, vacuum cleaners, other major and table appliances to those untold millions of eager householders who want to replace their present hold-over units with new models and those other untold millions of homemakers, who previously did not enjoy or could not afford those modern appliances but who now pack a wallop of buying power in savings, war bonds and other financial reserves.

That back-log of post-war buying power that has already piled up, totals many Billions of Dollars and it is growing daily.

Other industries may try to "jump the gun" and skim the cream off that post-war boom, but none has the advantage of a huge, nationwide closely integrated network system in which the producers of the goods, and the wholesalers who distribute them, and the contractors who install and the dealers who retail, all talk more or less the same language, all are held together by a community of interests because basically they are all selling utilization and application of the same item—electricity.

We know of no industry that has contributed more to more people in a proud and glorious past and we can see on the horizon no other industry that might gain a richer and more prosperous future than the electrical industry.

But—it will take vision and planning and plenty of plain guts, to pave the way NOW for that stupendous job of SELLING that will need to be done THEN.

We know that the national network of experienced, reliable electrical wholesalers will give an excellent account of itself when that post-war SELLING campaign begins. Meanwhile everyone will continue to strain every effort toward the winning of the war.

★

Hospitals Recently the War Production Board released the results of a "Supply Status Roundup" on hospitals, disclosed some staggering figures.

For instance, in 1942 the 6,345 registered hospitals in the United States expanded their facilities by the addition of 60,000 beds (and 5,300 bassinets).

Also, since January 1942 the construction of 260 new hospitals or extensive additions to existing hospitals has been authorized.

Also, WPB states that it "is continuing a consistent policy of granting priority assistance for any hospital needed as a result of war conditions or vitally essential to the health of a community."

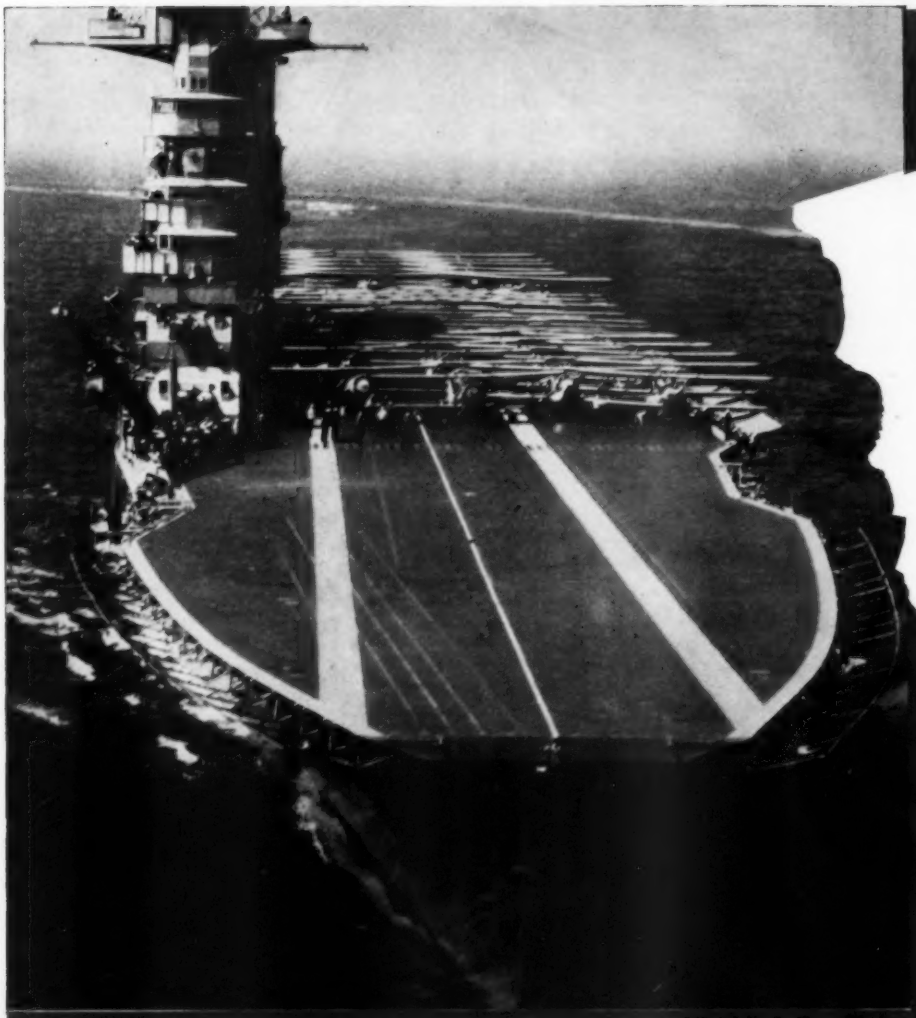
There's your cue—if you still need one.

★

Portend? Officially the firm of Butler Brothers is considered a wholesaler. Super wholesaler would be more accurate perhaps because of the variety of goods handled and volume of business done.

For some years its far flung activities have included the operation of wholly owned chains of retail stores and sponsorship of two voluntary chains of individually

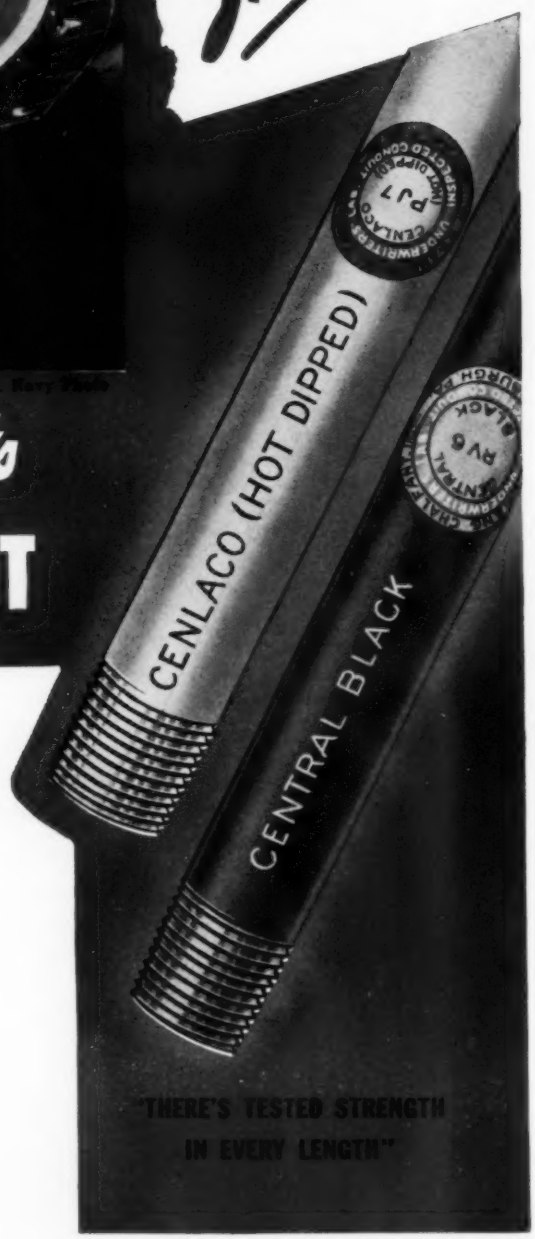
(*Continued on page* 17)



POWER FAILURE HERE IS SABOTAGE

Official U. S. Navy Photo

Guard Vital Circuits WITH CENTRAL RIGID STEEL CONDUIT



Vital circuits encased in CENTRAL RIGID STEEL CONDUIT are safe from deadly sabotage of shock, vibration, twisting, moisture and fumes.

CENTRAL'S consistent uniformity . . . accurate threading . . . easy workability are victory features at home as well as at sea. That's why CENTRAL has for many years been a favorite of the electrical industry . . . and will continue as the preferred conduit for vital circuits everywhere.

Sold by

SPANG CHALFANT, INC.

General Offices

GRANT BUILDING, PITTSBURGH, PA.

District Offices and Sales Representatives in Principal Cities

(*Continued from page* 13)

owned stores, the Ben Franklin and the Federated.

Recently Butler Brothers announced an internal reorganization, to insure more efficient distribution. It involves complete divorcing of the company's service to those voluntary chains from all other operations and two entirely separate functional organizations are to be set up.

It must be growing exceedingly difficult to keep three balls in the air. When a "wholesaler" fathers some wholly owned retail chains and mothers some voluntary chains, what can the independently operating retailers be but stepchildren? Maybe—after the reorganization —amputation?

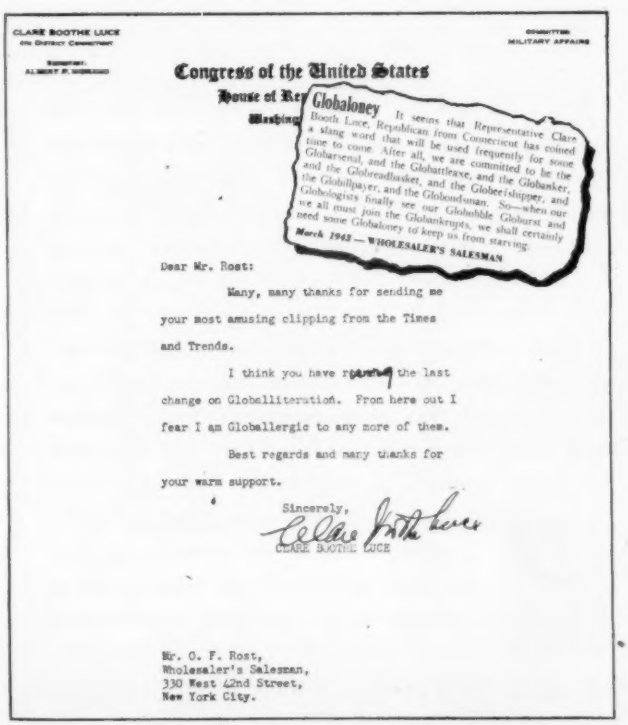
★

Small Plants and Sub-contracting That small plants have attained large importance in our war production program is established by recently published reports.

After interviewing 3,446 small manufacturers throughout the country the Office of War Information reports that 58 percent were engaged directly or indirectly in war production. The Cleveland Ordnance District reports that 45 percent of its *prime* contracts were placed with industrial concerns, employing less than 200 workers.

Sub-contracting by a single manufacturer probably reached its war-time record with the staggering total of 8,079 sub-contractors that contribute to the outstanding performance record of the Chrysler Corporation's battery of arsenals.—And of that total 3,636 concerns or 45 percent are small plants, employing 100 people or less.

That's spreading the work in true democratic fashion.



CLARE BOOTHE LUCE
4th District, Connecticut

COMMITTEE
MILITARY AFFAIRS

SECRETARY
ALBERT P. MORANO

Congress of the United States
House of Representatives
Washington

Globaloney It seems that Representative Clare Booth Luce, Republican from Connecticut has coined a slang word that will be used frequently for some time to come. After all, we are committed to be the Globarsenal, and the Globattleaxe, and the Globasker, and the Globreadbasket, and the Globeslinger, and the Globilpayer, and the Globeotshopper, and Globologists finally see our Globubble Globurst and we all must join the Globankrupts, we shall certainly need some Globaloney to keep us from starving.

March 1943 — WHOLESALER'S SALESMAN

Dear Mr. Rost:

Many, many thanks for sending me your most amusing clipping from the Times and Trends.

I think you have [illegible] the last change on Globalliteration. From here out I fear I am Globallergic to any more of them.

Best regards and many thanks for your warm support.

Sincerely,

Clare Boothe Luce

CLARE BOOTHE LUCE

Mr. O. F. Rost,
Wholesaler's Salesman,
330 West 42nd Street,
New York City.

Post-War Promise In engineering circles M.I.T. is considered "than which there is none better," and most of the M.I.T. enthusiasts would be unwilling to admit that there is any institution to equal it. We mention these observations to make the point that when someone, identified officially with M.I.T., makes a statement, it commands special attention, carries extra weight.

Well, Walter C. Voss, head of the Massachusetts Institute of Technology's building and engineering department, told the New York State League of Savings and Loan Associations recently that the building construction market will "reach the staggering potential sum of $6,000,000,000 demand immediately after the war."

And that's just one segment of the total post-war market that the electrical industry can tap, due to the great variety of its products.

★

Three Seconds "Late" Recently, in the lounge car of a train bound for Washington, we sat next to a Commander of the U. S. Navy. The ribbons he wore indicated that he had a fine combat record, but he was in a rebellious mood nevertheless.

After many years in the Navy, and with over 10,000 flying hours (he did not say how many enemy planes) to his credit, he had that day been rejected for further active flying, because some of his reflexes were THREE SECONDS LATE. . . . . .

That night we told this story to a group of our associates, among them a former officer of our Navy and veteran of the First World War. He exclaimed: "Hell, what was that guy crabbing about. There's your answer, right there," and he pointed to a newspaper lying on the table.

"77 Jap Planes Shot Down Over Guadalcanal—Our Losses 6" was the headline. Our friend continued: "Do you suppose we could score such 13 to 1 victories over the best those Japs can send against us if we let guys go up who are three seconds slow on the trigger?"

We are wondering what those thousands of fliers who now do our fighting because they are NOT "three seconds late" will do when they are mustered out and filter back into business. Boy, oh boy, will they step up the tempo and make it hot for those, who have grown minutes, hours, days "late" in their reflexes.

O. Fred. Rost

EDITOR

In the Renton division of Boeing Aircraft Co., Jefferson Electric Ballasts serve the fluorescent lamps, and Transformers insure top performance of the mercury lamps

For the Fluorescent Lamps . . . Jefferson Electric Ballasts

Good lighting not only entails the right number of foot candles,—but must be free of unnecessary shutdowns and servicing. Experienced production executives, lamp manufacturers, and electrical engineers have recognized the value of using Jefferson Electric Ballasts with fluorescent lamps for maximum lighting performance.

Correctness of design, selection of all materials, and expert transformer craftsmanship all contribute to the reliability demanded in our War production plants. Jefferson Electric Ballasts are made in single-, two-, three-, and four-lamp models—certified by Electrical Testing Laboratories of New York, and carrying the Underwriters' Laboratories label . . . It will pay you to specify Jefferson Electric Ballasts.

For the Mercury Lamps... Jefferson Electric Transformers

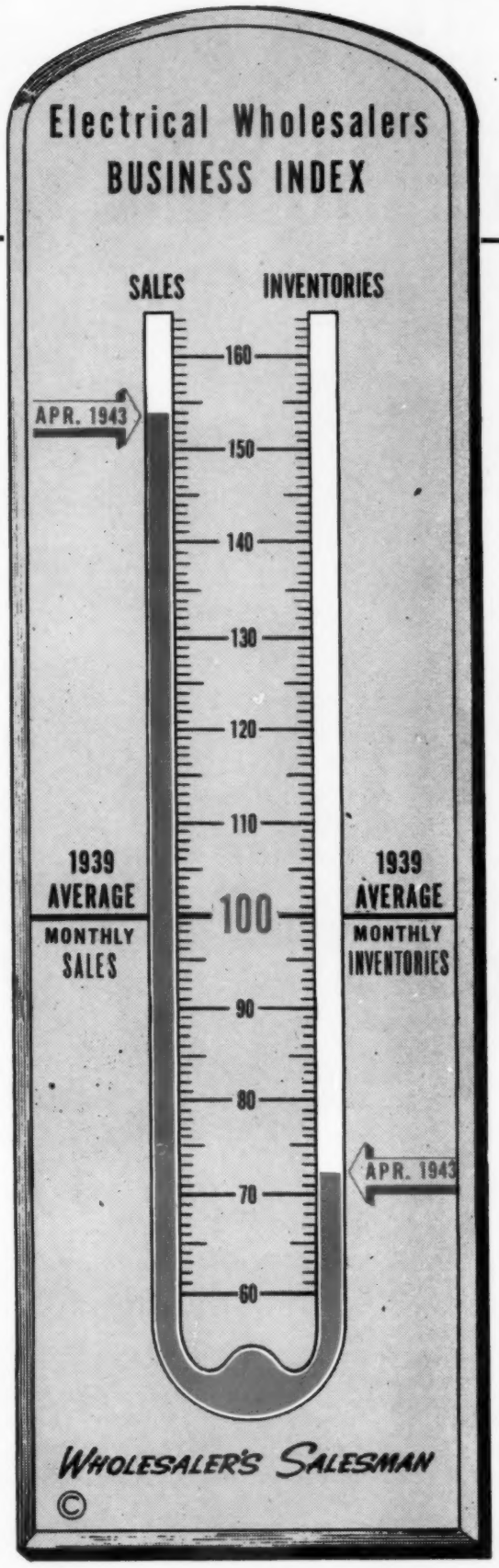
Correctly designed and coordinated to govern the current through the starting and operating cycles of mercury lamps, Jefferson Transformers more than meet the most exacting requirements. They insure maintained high efficiency and are built to traditional Jefferson standards of quality.

Tested by Electrical Testing Laboratories of New York and found to comply with Mercury lamp manufacturers' specifications, they are listed also by Underwriters' Laboratories, Inc., and carry the Underwriters' Re-examination Service Label. They are made in single and two-lamp types. Indoor models are designed for wall mounting or fixture suspension; outdoor weatherproof models, for wall or pole mounting.

To be sure of top mercury lamp lighting results—specify Jefferson Transformers.

JEFFERSON ELECTRIC

JEFFERSON ELECTRIC COMPANY, Bellwood (Suburb of Chicago) Illinois



Business Index

For the Month of April, 1943

SALES As averaged from the reports of 302 electrical wholesalers throughout the country, the sales of electrical goods in April showed a dollar volume at 154 percent of the 1939 average monthly sales.

Thus, electrical wholesalers apparently enjoy the position where, with practically no appliances to sell, only a minimum of consumer goods to distribute, and with increased restrictions and shortages of critical materials, they can still maintain highly satisfactory sales volume. Furthermore those April sales approach in dollar volume those in the period of 1940–41 when the war construction and conversion programs were at their height, and the sales of appliances and other consumer goods were still a factor in sales totals.

It is also worthy of note that wholesalers are conducting a business with sales volume of 54 percent above the 1939 level, while their inventories are down 28 percent from the 1939 level, which appears to be by far the lowest stock-to-sales ratio in many years.

April performance also marks the third consecutive month of steady increase in wholesalers' sales from the January low, totalling a 32 percent gain for the period from February to April, inclusive.

INVENTORIES Registering at 72 percent of the 1939 average monthly level, inventories show that they are continuing the slow, but steady, decline that has continued without let-up since December, 1941. Although this decline, which was the most rapid in the period from March to December, 1942, eased up somewhat during the first two months of 1943, it reacted to the increases in sales by registering sharp drops in both March and April.

COLLECTIONS The reports of 283 electrical wholesalers throughout the country showed average collections at 78 percent. This is 2 points higher than the figure for April 1942, and also 2 points higher than the percentage reported for the previous month. Accounts receivable were reported as 19 percent below the same month of last year, and the same as that registered for the previous month.

SOURCE The figures we use as basis for these monthly comparisons of performance in the electrical wholesaling field are collected and compiled by the Bureau of the Census of the U. S. Department of Commerce.

THE EXECUTIVE WHO STOPS TO THINK . . .

Knows that "10% for War Bonds isn't enough these days"

Workers' Living Costs going up . . . and Income and Victory Tax now deducted at source for thousands of workers . . .

Check! You're perfectly right . . . but all these burdens are more than balanced by *much higher* FAMILY INCOMES *for most of your workers!*

Millions of new workers have entered the picture. Millions of women who never worked before. Millions of others who never began to earn what they are getting today!

A 10% Pay-Roll Allotment for War Bonds from the wages of the family bread-winner is one thing—*a 10% Pay-Roll Allotment from each of several workers in the same family is quite another matter!* Why, in many such cases, it could well be jacked up to 30%—50% or even more of the family's *new* money!

That's why the Treasury Department now urges you to revise your War Bond *thinking*—and your War Bond *selling*—on the basis of *family* incomes. The current War Bond campaign is built around the family unit—and labor-management sales programs should be revised accordingly.

For details get in touch with your local War Savings Staff which will supply you with all necessary material for the proper presentation of the new plan.

Last year's bonds got us started—*this year's bonds are to win!* So let's all raise our sights, and get going. If we all pull together, we'll put it over with a bang!

This space is a contribution to America's all-out war effort by

WHOLESALER'S SALESMAN

you've done your bit
. . . now do your best!

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

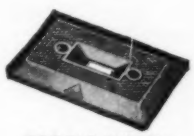
THERE STILL IS *Porcelain*

NO LET DOWN IN WIRING QUALITY . . . PERMANENCY . . . DEPENDABILITY . . . ECONOMY . . . NOR IN EASE OF INSTALLATION . .

ILLINOIS

COMPLETELY INSULATED

ALL PORCELAIN WIRING SYSTEMS . . .



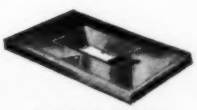
TOGGLE SWITCH PLATE

TRADE Bull Dog REGISTERED MARK

Look for this Trade Mark

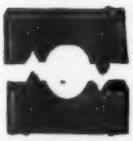
STANDARD KNOBS

STANDARD TUBES



SWITCH BOXES AND COVERS

OUTLET BOXES AND COVERS



CLEATS

RECEPTACLE COVER DUPLEX

● Porcelain conforms to the National Electrical Code—Porcelain saves metal—Porcelain is available—Illinois completely insulated all porcelain wiring systems are old in terms of years of service. They have made it possible for contractors to continue right along with wiring installations—no time-outs for materials.

No vital materials go into the production of porcelain—yet, materials do go into porcelain that make these systems durable—that are not affected by rust or corrosion—that make possible full safety—that make these systems valuable where there is dampness and fire hazard.

You can do an up-to-the-minute wiring job with an Illinois Porcelain System—you can guarantee these systems for longest service life.

Porcelain is a logical material too because it conserves vital metals for our victory effort.

Illinois all porcelain wiring systems are adaptable to practically all wiring plans and layouts. They can be installed without grounding.

For that next installation job, sell an Illinois all porcelain wiring system.

Illinois ELECTRIC PORCELAIN CO. MACOMB ILLINOIS

WHOLESALER'S SALESMAN BUSINESS INDEX

REGIONAL ANALYSIS

APRIL, 1943

OF surprising note this month, is the unusual variance in wholesalers sales by regions. Although, for the country as a whole, a 2 percent gain was registered, the average of regional sales ranged from as much as 25 points above to 10 points below the national figure.

The geographical regions made up of the industrial states, those usually considered to be humming with war production activity, showed declines in sales ranging from 1 to 10 points below the figure of the previous month. Only one of the industrial areas, region 3, showed a gain in sales.

But among the lesser industrial areas and those states where agriculture predominates, many exceptionally large gains in sales volume were registered.

Several explanations for such an unbalanced distribution of sales are offered. Some of the drop in sales in the heavily industrialized areas may be contributed to the unusual situation in war production where, because of product change-overs and other changes caused by the exigencies of war, there has been a slowing down and even a temporary stoppage in some war industries. It is doubtful, however, that such a condition, in itself, would be extensive enough to cause a drop of 10 percent in sales in the Middle-Atlantic area, but it might account for the 1 percent decline in sales in the New England and Pacific Coast regions.

Worth analyzing is the 25 percent gain in sales reported from the West North Central States (Minn., Iowa, Mo., N. Dak., S. Dak., Nebr., Kans.) In March these great agricultural states were at the beginning of a farming season in which intensified production was demanded. It is possible that such activity, plus the easing up, somewhat, of WPB restrictions on the sale of materials for use by farmers, might have encouraged the buying of maintenance and repair goods to a point that would have helped build up the wholesaler's sales volume.

Inventories, which were reported at 97 percent of the previous month's level when averaged for the country as a whole, showed variations among the regions, but not to the extent that was noted among sales.

Figures in this table apply to the geographic divisions as outlined and numbered in red ink on map above

SALES APRIL, 1943 Compared in % with		Region (See Map)	INVENTORIES APRIL, 1943 Compared in % with	
March 1943	April 1942		March 1943	April 1942
99	83	1	95	42
90	90	2	94	45
119	62	3	95	43
125	62	4	94	39
102	74	5	101	52
113	62	6	89	34
115	78	7	92	37
118	79	8	94	42
99	78	9	105	49
102	**76**	For **U. S. A.**	**97**	**45**

Engineering Design
—Creator of America's Mechanized Might

In war, as well as in peace, the design engineer is the vital link between the inventive mind and the mass-production reality

IT IS gratifying and interesting to note that reports of new "secret weapons" not only have reversed their course during the past few months . . . they also have increased in frequency. Once they filled us with dread and misgiving. Today the enemy does the worrying.

Word about the latest new Army weapon reached us as this was being written . . . a 2½ ton truck that performs on water as well as on land with equal efficiency. "The Duck", resembling an overgrown amphibious jeep, is particularly suited to landing operations where docks are lacking. Loaded with 20 fully equipped soldiers or their equivalent in supplies, its propeller runs it ashore. It climbs the beach on its six-wheel drive and continues the trip on land.

This important addition to our "second-front" fighting equipment, coming so closely on the heels of the now famous tank-killing "Bazooka", is one of many history making contributions of American design engineers — the men who transform nebulous ideas into practical realities — the men who make our war machines superior to those of our enemies.

Invasion and eventual victory became a certainty as soon as America's design engineers threw their full effort into the war against aggression. Adapting intricate ordnance designs to mass production, these men developed weapons such as the M-10 destroyer of Rommel's tanks and brought out the new fighting planes and bombers that have won the air superiority that has turned the tide against the Axis. Taking ideas and giving them form, selecting the materials of construction, deciding upon the method of fabrication, adapting the electrical and mechanical parts that power the product, specifying the finish that protects and beautifies it . . . these men are the focal point of American production. Their ingenuity has no parallel. Once they put automobiles on a mass production basis and within the reach of all. Today, after less than three years and with little previous experience in armament design, they have brought America's war weapons to the highest efficiency . . . surpassing Hitler's weapons despite all the vaunted scientific wizardry of the Germans and their ten year start.

At this point it is well to remember that while Germany's military might is traceable to its superiority in armament, many of the basic technological discoveries (including the airplane and the submarine) are the products of American genius. The Germans always have been aware of the military advantages of technological superiority and have forced its expansion with all their might. They knew that mobility and surprise play a decisive role in modern warfare and their design engineers were kept busy, with unique intensity, to achieve unprecedented results in fast-moving, hard-hitting fighting equipment. Our own military and industrial engineers did not go into action until it became certain that we would be involved in the conflict. But even before our country actually embarked on its Preparedness Program they were busily engaged in developing the designs of our war equipment. Tanks, planes, guns, ships and hundreds of other apparatus and machines of war were studied. Carefully selected committees of our national engineering societies were organized under the leadership of the Army Ordnance Department to serve as advisors and consultants in the development of advanced designs of tanks and other motorized equipment of war. The above mentioned "Duck" and the now famous Sherman tank are just two of the many results of these efforts.

After the Preparedness Program had officially been launched and Congress had made its initial appropriation, it was necessary to create the manufacturing blueprints from which the engines of war could be built. Because the designs of the machines of production, as well as the designs of the products themselves, determine the speed and economy with which anything can be manufactured,

This is the thirteenth of a series of editorials appearing monthly in all McGraw-Hill publications, reaching more than one and one-half million readers. They are dedicated to the purpose of telling the part that each industry is playing in the war effort and of informing the public on the magnificent war-production accomplishments of America's industries.

the capacity of our industrial system is dependent, to a considerable extent, upon the ability and ingenuity of American design engineers. Germany's military might was successfully mechanized because Germany, for more than 10 years preceding the war, was riding the wave of a world-wide technological revolution. This revolution was as far-reaching as the advent of the electric motor and the internal combustion engine. It was born of the profusion of inventions and discoveries since the last war. German design engineers took advantage of every one of these.

If we are to defeat our enemies and if we are to continue to play the leading role in the post-war world we must make better use of the new technology than do our enemies. The job is up to American product engineers who already have made tremendous strides in designing the intricate machinery of production and of war equipment. Much remains to be done however.

It has been said that the Germans have not developed one single item that can be classified as basically original, nor are there indications that any so-called "secret weapon" will henceforth be developed by them. Today the Nazis are completely outclassed by the tremendous manpower of engineering brains that is at the disposal of American industry. Although we were faced by the same fundamental problems of shortages in materials, manpower and time, our engineers not only solved these problems quickly and effectively, but they outstripped the enemy by the preponderant weight of talent which we were able to bring to bear upon our problems. As is evidenced by studies of the designs of captured German war equipment, our airplanes are faster, carry heavier loads, have superior protective armor and heavier armament. Our tanks, especially the Shermans, stand unmatched. Our tractor-mounted artillery excels theirs in fighting power. Our automotive vehicles are the envy of the world. Our battleships are supreme. Our signal and detection devices are frustrating all of our enemies' attempts to dominate the seas.

And as we approach the end of the conflict, the pattern of which already has been set, the forces that converted American industry from peace to war-production will again be brought into play, and the product engineer will continue to be the fulcrum. Our post-war industry will grow from his blueprint. Nor will his job be any less urgent, any less responsible, any less sweeping in its effects than were his efforts during the war-preparedness program.

Since the cessation of the manufacture of peace-time goods, many new materials and production techniques have been developed. Plastics, synthetic rubber and magnesium in the field of materials were relatively new and restricted in their uses when war came. So were powder metallurgy, induction heating, electrostatic heating, adhesives for joining metals and compressed resin-impregnated wood. The new possibilities in product design created by the electronic devices and applications developed during the war period virtually stun the imagination and the "atomic revolution" promises to change the entire pattern of manufacturing operations.

Never before has there been so much speculation about the future as there is today. Looking forward, who can doubt our limitless capacity to continue our industrial world leadership?

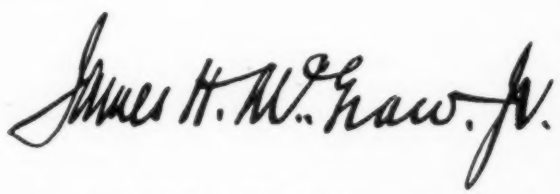
While no one can predict developments in product design in the post-war period, certain it is that they will be so vastly different and so far superior to existing designs that they will obsolete most products as we know them today. With engines of vastly superior metals, designed to burn 100 octane gasoline and built to a precision ten times greater than that of pre-war engines, our post-war automobiles will give from 40 to 60 miles to the gallon. Tires will last from forty to fifty thousand miles. The comfort and smoothness with which these cars of tomorrow will glide along are undreamed of today. Polaroid windshields will eliminate the glare of oncoming headlights and the driver will need to give but scant attention to the manipulation of his simplified gear shifts.

According to no less an authority than Igor Sikorsky, we stand on the threshold of a new air age in which the helicopter will contribute to the greatest prosperity we have ever known.

Prophecies are hard to make at a time like this but speedy house building seems to be a certainty in the world of tomorrow. Air conditioning, new methods of heating, humidifying and drying, promise to be necessities in the post-war home. Vacuum sweepers will be much lighter, less noisy and easier to manipulate. Washing-machines will be fully automatic and practically free of noise and vibration. Not only will our homes and most of the furnishings be of radically new design, but so will the factories and machines that produce them.

Only one factor can prevent the fulfillment of the dream of the product designer. His job is not accomplished over night. To convert sound ideas into production blueprints involves a great deal of time and money. The building of test models is an expensive and tedious procedure. An abundance of seed money is required to perfect the product, to develop mass-production methods and to bring it to fruition as a finished saleable product.

It is the patriotic duty of every industrial leader to hasten these developments so that the material benefits created by them may speed our progress along the road of abundance.



President, McGraw-Hill Publishing Company, Inc.

WHOLESALER'S SALESMAN NEWS

Major Appliance Manufacturers Talk Post-War Conversion Plans

Washer and Ironer men set course for guiding reconversion. Post-war planning dominates discussion at summer meeting. Manufacturers urge delay in producing "victory" model; consider men for advisory committee

CHICAGO—In order to provide for intelligent guidance of reconversion in their industry, the American Washer and Ironer Manufacturers Association at its meeting approved a set of 14 specific recommendations for this post-war work.

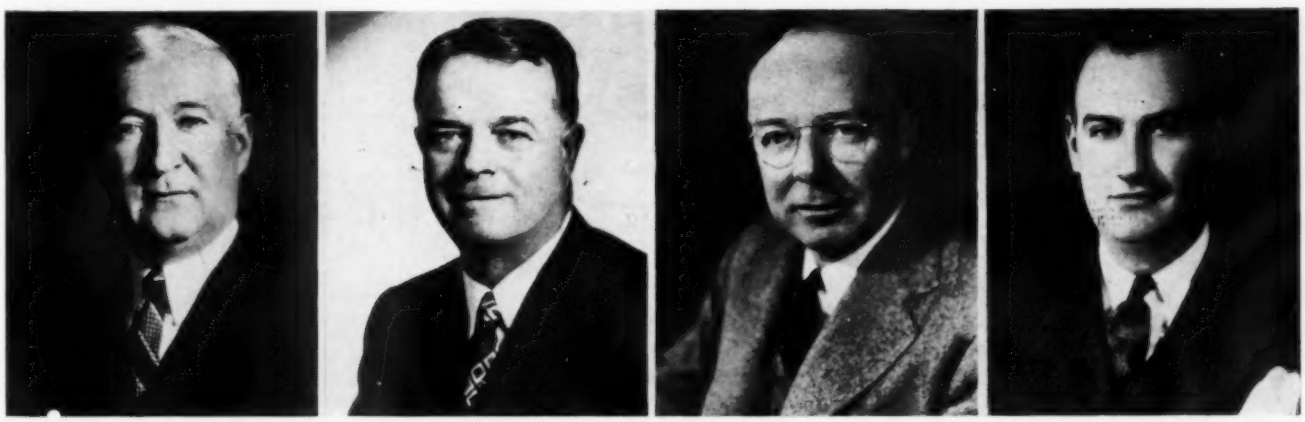
According to John Wicht, General Electric Company, who is president of the Association, the formation and approval of these recommendations was done because of the request of the consumer durable goods division of WPB. That division had asked that the association suggest the appointment of an advisory committee to meet with government representatives on the subject of reconversion.

Since its inception last January, the association's post-war planning committee, headed by Roy Bradt, Maytag Co., had been studying the problem of reconversion, but the request of the WPB hastened the association to meet and approve the recommendations.

Reconversion and post-war planning absorbed most of the entire business program of the association's meeting. Before hearing and approving the 14 point reconversion program, members of the association heard complete progress reports from the chairman of the subcommittees of the major post-war committee.

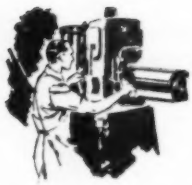
The reconversion program as approved by the association's members consists of these fourteen points.

1. That a request be made of WPB to appoint an industry advisory committee.
2. That WPB, through this committee, be requested to give the industry a minimum of six months advance notice of its intention to allow reconversion to washer and ironer manufacture.
3. That the same ration be used for each company in returning to production that was used in diminishing and going out of production.
4. That permission to resume manufacturing carry with it CMP material releases and priority ratings sufficient to get all the materials needed to manufacture whatever schedules are released by WPB.
5. That the committee carefully consider how best delivery schedules may be developed so that no undue disadvantages be imposed upon companies still working on war contracts.
6. That scheduling be handled on a 90-day or quarter basis with flexibility within these periods, with companies unable to manufacture being able to accumulate their schedules, and/or have other companies manufacture for



ELECTED AT JEFFERSON Electric Co.—The board of directors elected John A. Bennan, left, as chairman of the board. J. C. Daley, second from left, was made president and treasurer. A. E. Tregenza, second from right, becomes executive vice-president. James M. Bennan, right, was made vice-president and general sales manager.

35 manufacturers *think this is a good way* to protect you!



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Be sure the fluorescent lighting fixtures you specify wear this label!

Certified
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The Manufacturer guarantees by affixing this label that this Fluorescent Luminaire is a duplicate of samples found by periodic examination to comply with the minimum requirements as set up in the
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Every single part of a FLEUR-O-LIER fixture is tested and CERTIFIED by impartial experts, Electrical Testing Laboratories, Inc., of New York, at the beginning. Then, checks are made at quarterly intervals by an E. T. L. inspector who visits the factory of each participant. *Starters* and *ballasts* have their own Certification tests to make sure you get high power factor and reliable operation.

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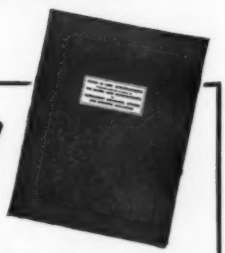
FLEUR-O-LIERS conform to all WPB conservation orders. Available only with suitable priority rating. Whenever fluorescent is indicated, be sure to specify fixtures bearing the FLEUR-O-LIER Label.



NEW!

Write NOW for new booklet containing complete FLEUR-O-LIER engineering specifications. You'll want them for ready reference when you specify lighting equipment. With them you'll get the FLEUR-O-LIER story and list of manufacturers. Address FLEUR-O-LIER MANUFACTURERS, 2121-7 Keith Building, Cleveland 15, Ohio.

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CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements

them with the same effect as though they did it themselves.

7. That WPB begin on a yearly basis with permission to make six months' runs of justifiable parts and assemblies and purchasing in commercial quantities.

8. That schedules be continually increased by WPB as the war draws closer to an end, and that any government restrictions continue only so long as there are material shortages.

9. That this association take absolutely no part in prices, costs, markups, etc., or anything pertaining to them.

10. That "Victory" models be considered as uneconomic and unjustified.

11. That choice of models be left up to each manufacturer. That WPB indicate a desired division or allocation of units for Armed Forces or defense area requirements.

12. That materials be allocated only to those companies who were affected by order L-6C until each company so affected is able to get all materials needed.

Radio Industry Discusses War Production, Post-War

One-day RMA War Production Conference filled with sessions and meetings covering reconversion of plants, future of FM and Television. Government leaders address gatherings, with FCC Chairman Fly as guest speaker

WITHOUT the fanfare, exhibits and promotion associated with peacetime conventions, members of the radio trade gathered at the Palmer House in Chicago early in June for a full day of serious discussion on war production problems and plans for postwar resumption of consumer business.

An unusually large number of manufacturers, distributors, representatives and sales managers were on hand to take part in the RMA War Production Conference, as this year's gathering was appropriately called.

Fly Heralds Post-war Radio

James L. Fly, chairman of the Federal Communications Commission told the members and guests that when peace comes an ever expanding radio industry will be an important postwar bulwark against unemployment. He said that the half-billion dollar pre-war radio industry has become a three billion dollar business since the beginning of the war, and will become bigger still, provided that careful long-range planning for the decade ahead is begun now.

Warns on Fantastic Models

Paul V. Galvin, president of the RMA, told his associates that there will be a "whale of a market" for radio after the war, "if it's not messed up." However, Mr. Galvin warned that some manufacturers are playing a dangerous game in advocating fantastic designs and models." Excess profits, he said, were putting "ants in the pants" of radio's advertising men. The result of their efforts will be a confused public—a public that may not buy after the war.

Concentrated in the one official day of the conference were four committee meetings, two board meetings, five division meetings, and the annual luncheon meeting at which the government officials spoke.

Chairman W. A. Coogan, export manager of Sylvania Electric Products, Inc., presided at the Export Committee meeting. Guests were Kenneth Campbell, trade relations advisor of the Board of Economic Warfare; Ralph D. Camp, in charge of exports, WPB Radio and Radar Division, and Franklin Johnson.

Name Executive Committee

Upon the recommendation of Paul V. Galvin, president of RMA, an executive committee of twelve members was named to direct the operations of the RMA during the next twelve months.

Mr. Galvin was selected by the board of directors to act as chairman of the committee, which includes: Ben Abrams, president of the Emerson Radio and Phonograph Corp., John Ballantyne, president, the Philco Corp., Dr. W. R. G. Baker, vice-president in charge of the Electronics Department of the General Electric Co., M. F. Balcom, vice-president of Sylvania Electric Products, Inc., H. C. Bonfig, general sales manager, RCA Victor Division, Radio Corp. of America; R. C. Cosgrove, vice-president in charge of manufacturing, Crosley Corp., W. P. Hilliard, director of sales and engineering, Bendix Radio; J. J. Nance, vice-president and director of sales, Zenith Radio Corp., Ray F. Sparrow, vice-president, P. R. Mallory and Co., A. S. Wells, president, Wells-Gardner and Co., Thomas A. White, vice-president and sales manager, Jensen Radio Manufacturing Co., and Leslie F. Muter, head of the Muter Company.

West Coast Wholesalers Talk Labor, Post-War Plans

Local labor shortages and 48-hour week receive attention at first war conference. Utility men envision large future appliance market as result of expanded generating facilities. Registration reaches 185

EFFICIENT use of available labor supplies, post-war markets and discussion of current WPB orders highlighted the three-day war conference of the Pacific Division of the National Electrical Wholesalers Association at the Biltmore, Santa Barbara, Calif., on June 17–19. Speakers from almost every related branch of the electrical industry addressed members on subjects of current and post-war interest. The meeting, which was the first since Pearl Harbor, drew a total registration of 185.

Keyed directly to local labor short-

(*Continued on page* 61)

By Alfred Byers, *Secretary.*
National Electrical Wholesalers Association

News Notes From N. E. W. A.

METZ HEADS N.E.W.A. POST-WAR COMMITTEE

For a long time the Association has been effectively cooperating with the war program. Obviously that will continue until Victory. Peace is not imminent. Nevertheless, when it is attained, entirely new and pressing economic problems will accompany it.

With that in mind, the Association has authorized the appointment of a N.E.W.A. Post-War Committee. Herbert Metz, Graybar Electric Company, Inc., New York, has been named chairman. His outstanding work as chairman of the Publicity and Planning Committee of the National Adequate Wiring Bureau and more recently as chairman, the Bureau's Executive Committee, serves as a guarantee that the post-war effort will be conducted in the general interest of the electrical wholesaling industry.

At this writing Mr. Metz has not yet filled out the membership of his Committee. Work of this committee will be national and industry wide in character. It will embrace the field of electrical wholesaling from both a supply and merchandising standpoint. More news can be expected in these columns as the committee develops its program for the months ahead.

CAPITOL NEWS

N.E.W.A.'s principal officers, President Fife and Managing Director Pyle, continue their travels to Washington as has been their custom for months now. Their comings and goings mean a great deal to the Association's constant effort to keep the membership up to date on daily happenings at the Capitol. They likewise, keep Washington informed about this important industry.

This is not the place nor is there adequate space here to report on their numerous activities along the Potomac shores. However, much of N.E.W.A.'s direct efforts to assist the war program through the wholesalers are handled by Messrs. Fife and Pyle.

NEWA SURVEYING APPLIANCE FIELD

Messrs. H. B. Donley, R. J. Brown, F. R. Eiseman, E. B. Ingraham, Herbert Metz and L. E. Salmon, were appointed by President D. Lyle Fife, during the Buffalo War Conference in May, as a Special Committee to furnish merchandising data to the Electrical Wholesalers Industry Advisory Committee of WPB. Committee Chairman is Mr. Donley.

The Committee has been very active since its appointment. Every member of the Association has been provided with a supply of questionnaires to be filled out by local retail dealers. These are returnable to the Association's office where they will be tabulated. Results will be reported to the Special Committee for transmittal to the Advisory Committee.

The purpose of appointing this Special Committee is to make possible a national study of the essential civilian requirements of irons, washers, hot plates, roasters, ranges and water heaters in the immediate future. Through the cooperation of the entire membership, the study is expected to develop workable, dependable data which the WPB's Advisory Committee can use constructively in discussing with that government agency the present situation with respect to these essential civilian appliance needs.

MANAGEMENT COMMITTEE TO CONSIDER NEW ASSOCIATION FEATURES

Pictured on the cover of the June issue of WHOLESALER'S SALESMAN was the new Management Committee of N.E.W.A. elected during the Buffalo War Conference of the Association. This group is now giving generously of its time and thought to improving the Association's many services for the constantly increasing membership.

In addition to handling more or less routine matters of management, the Committee, at its meeting late in June will consider some proposals to augment present activities so as to make them more helpful to all members. Because this is being written just a few days before that meeting, in order to meet the publication date, it is impossible to record those proposed features here.

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FIRST with Steel-Saving Design, using a minimum of steel to comply with latest WPB requirements.

FIRST with New-Type "Rigid-Spine" Wireway Channel that Simplifies Wiring and Mounting for Continuous Rows.

PATENT APPLIED FOR

FIRST with Simplified End-Piece for Easy Access to Starters and Sockets Without Disturbing Lamps.

FIRST with "Underslung" Ballast located on "Outside" —Cooler operation results in longer life.

FIRST with "Easy-Fit" Coupler for Better, Easier End-to-End Mounting. Simpler—quicker to install.

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4 MITCHELITE Models Answer Every Lighting Need

You can get MITCHELITE lighting in 2-40 watt and 3-40 watt units, 2-100 watt unit, and a 2-section unit for four 100-watt lamps which operates with only one ballast.

Each model is so flexible it can be used for both individual and continuous row lighting—for surface or suspension mounting.

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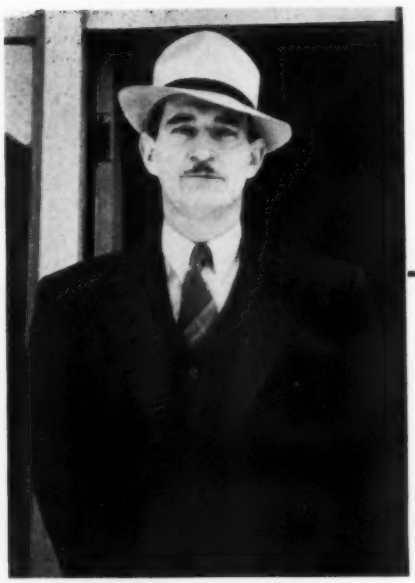
New Hospital Construction and Are New War-Time

Wholesalers in every part of the country will find new hospital construction, extension, modernization a welcome source of business, requiring quantities of materials for both new work and maintenance



G. B. Hammond

THESE days, with steadily growing frequency, there is a break in the wholesaler salesman's routine of rendering service and expediting procurement of materials for strictly war industries and projects—a sort of welcome interlude during which we can sort of get back to what we were. The building of a new hospital or extension of an existing one represents the type of job where such is the case. It is not strictly a war project, though essential to the extent of carrying certain priority advantages, and the war is causing tremendous expansion of hospital facilities in every part of the country.

In that connection, I had the pleasure of "selling" (if that word may be used on a special occasion) a considerable portion of the electrical equipment and material for the new $800,000 addition to St. Mary's Hospital in this city. When this was first started, electrical materials were getting hard to obtain, and before completion it went onto a priority basis accorded such institutions.

In working on such a job, the wholesaler's salesman should aim at five primary objectives, aside from the regular supplies and devices entering into the wiring of the building. These are:

(1) General Lighting Equipment
(2) Signal System
(3) Electric Kitchen
(4) Nurse Call System
(5) Special Lighting in Operating Rooms

All of the wiring and the installation of the general and special equipment are handled by the electrical contractor on the job. The hospital authorities are not contacted by the wholesaler's salesman to any great extent on the electrical work, as this contact is left to the contractor. The salesman works primarily with the contractor, and next to him, the architect.

After study of the plans and specifications, the salesman, drawing from his experience in connection with work of a like character, may find that there are certain special electrical features that have been left out of consideration altogether, or, if provided for, may be susceptible to changes which would improve the installation as a whole.

Such additions or changes are first suggested to the architect by the salesman, who explains fully and advances his argument for their acceptance. If the architect approves of the suggestions, he then asks the contractor to bid on such features, which are not a part of the original plans. Upon receiving the figure, the architect then goes to the hospital authorities for permission to insert them.

On new hospital construction work, application for priorities is made in the routine way. The salesman helps make out the application and in connection with it makes one of his few contacts with the hospital management. Then, of course, comes the ordering and expediting of the materials so that no part of the work will be held up if it can possibly be avoided. In this respect, the hospital job does not differ from any war construction job, and the value of the salesman can more or less be gauged by his performance as an expediter.

In the particular installation referred to here, in accordance with the most recent hospital practice, fluorescent units were used for general illumination. In the minor surgery rooms, incandescent lamps with glass reflectors were employed, which are more or less standard for the purpose. They are used because the light can be better controlled at one point. A number of the units are used for each operating table and the reflectors can be so arranged that practically all rays cross at or near the plane of work, so as to give powerful illumination without casting shadows.

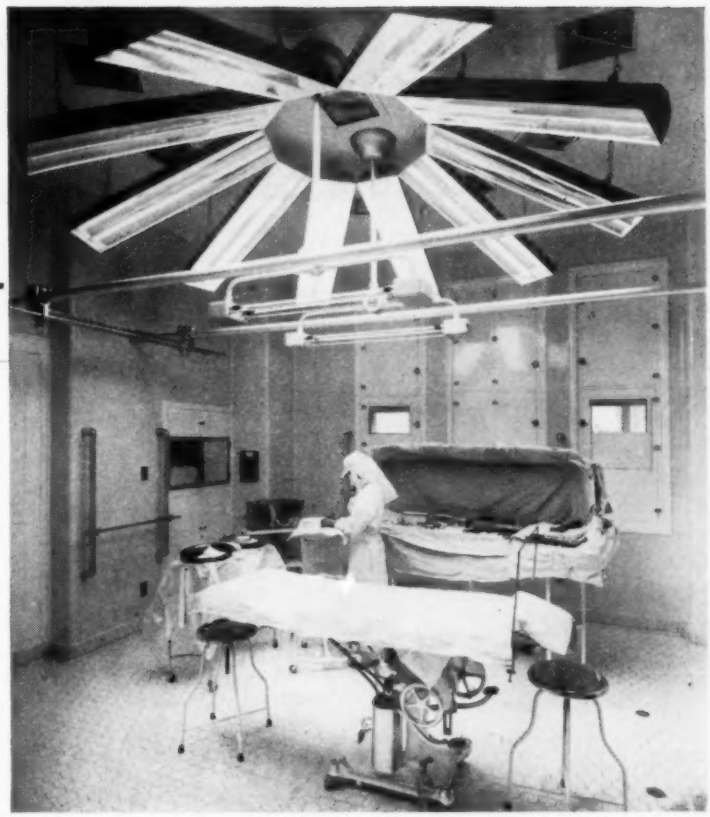
Extensions Sales Opportunities

By G. B. Hammond

A special type of light is generally required in the main surgery, and if this should prove to be somewhat out of the electrical wholesaler's field they are often obtained from surgical supply makers.

The electrical kitchen where the food for the patients is prepared was sold in this case as a complete unit. One additional piece of kitchen equipment not in the original plans went through at my suggestion. This was a dish washer for the nurses' dining room. It is the rule there, as in most hospitals, that the nurses be served in a dining room separate from that for the other employees. The nurses have their own dishes for this dining room and they must be washed separately from all other dishes. It was not, therefore, difficult to show the advantage of an electrical dish washer for this department, as contrasted with hand washing by the nurses themselves.

Another matter that came up while building and equipping the new section was the revamping of the signal system in the old part of the building. Under present conditions, it was impracticable to install any new wiring, yet they were sadly in need of a modern system. The result was easily accomplished, however, by using three-way mercury switches in connection with bullseyes. Such a system was installed, using the old wiring, and a marked improvement was obtained.



TOP PHOTO Good Lighting is important for many purposes in every hospital. This "sunburst" of 20 fluorescents provides cool, shadowless light over the operating table. Two germicidal lamps are suspended below the light. (Westinghouse Photo). BOTTOM PHOTO Germicidal lamp installations protect babies in the "Cradle" in Chicago (G.E. photo).

How Wholesalers Speed Completion

This prominent electrical engineer and contractor quotes from personal experience to demonstrate that in this war emergency the electrical wholesaler is meeting his obligation — and more

THE last two years have proved the necessity for the electrical wholesaler perhaps more than any period in the history of that industry. Without his aid, the construction of every war industry plant would have been seriously delayed at a time when speed was the over-powering factor. There have been in the past, and there are still some who, from selfish motives or plain ignorance, insist that the wholesaler—any type of middleman—constitutes an economic waste. We electrical contractors, even, in times past have given a scattered measure of support to this theory.

In the old days of leisurely procedure, and no urge except that of competition, we were not above buying direct if the occasion presented itself, and sometimes we were known to voice the opinion that the wholesaler's compensation for his services rightfully belonged to us, aside perhaps from a warehousing commission. But I believe today there are very few contractors engaged in war work who hold such views. The wholesaler has stood shoulder to shoulder with us too solidly and efficiently in this emergency to permit of any feeling like that.

During the present construction period it has been our experience in this territory that we have been in need of certain amounts of materials—amounts staggering in comparison with any condition that ever arose in the past. They were materials not in the manufacturers' stocks and not in sufficient quantities in any local stocks. What did our local wholesalers do to help us out? Remember, we had contracts to be completed in weeks that in ordinary times would have required perhaps as many months. Did we have the time or the facilities to shop the whole United States and have any left over for our construction plans and operations? We most certainly did not.

Wholesalers "Shop the Country"

That is exactly what the wholesalers did for us. They shopped the country and what is more got the materials onto the jobs, for the most part on scheduled time. In the case of the chain wholesalers, they assembled materials from all their other branches wherever obtainable. In the case of the independent wholesalers, they practically combed the whole Pacific Coast area, and even farther than that, picking up anything and everything they could lay their hands upon.

We have found that the wholesalers have gone to great lengths to follow along with this program of speedy construction. I suspect, in fact I know, of many specific instances where such work has been done at no profit to themselves.

In the salesmen of the wholesalers, I have noted quite a remarkable change. They have always been fellows I could respect and like, as a rule; on the job, interested in their business, helpful where they could be, and engaged as all salesmen should be in the day in and day out promotion of their own lines. But almost over night they have turned into material expediters. They seem to be constantly checking their own and the other fellow's stocks. This extends not alone to their competitors' stocks but manufacturers' local stocks and even the stocks of other contractors that might be available.

When I am in need of certain materials and ask one of these salesmen, he generally gives me one of two answers. (1) I can get it for you, delivery about such a date. (2) I can't get it, but I think you can get it from so and so. Try them. This is rather a far cry from the old days when I presume that a salesman would rather have spit out a couple of his teeth than to send a customer to someone else for material he was supposed to have himself. Now, they all seem to be imbued with the spirit of the times, which is to get the job done.

Another way in which the salesman has been helpful is in keeping us informed frequently of the status of orders and shipment dates on materials that are coming from the factory. He is not superhuman by any means. There have been plenty of cases where shipments were delayed in spite of all that could be done. As soon as he finds out that there will be a delay, he notifies us promptly, so that we can make the necessary adjustments in our own production program. With one eye on our job and by means of the long distance telephone, telegraph and

On the War Construction Front

By Van S. McKenny

VAN S. McKENNY, electrical contractor of Seattle, Washington says: "It would be difficult to say how war industry contracts could have been completed anywhere near on time without the assistance of the electrical wholesaler to expedite procurement of materials. His service has been of the utmost importance."

The McKenny company is one of the leading electrical contractors in the Pacific Northwest, with such jobs to its credit as Boeing Aircraft Plant No. 2, Boeing Renton plant, Everett-Pacific shipyards, Associated shipyards, Todd shipyards, and others. These contracts were for complete installations, including light and power, paging systems and intercommunicating telephone systems, etc., together with furnishing buildings and equipment for the main transformer stations. Some of these installations involved new type network systems for power distribution.

frequent letters he does his best to keep the job moving. That constitutes the principal gauge of his efficiency and he has measured up to it pretty well.

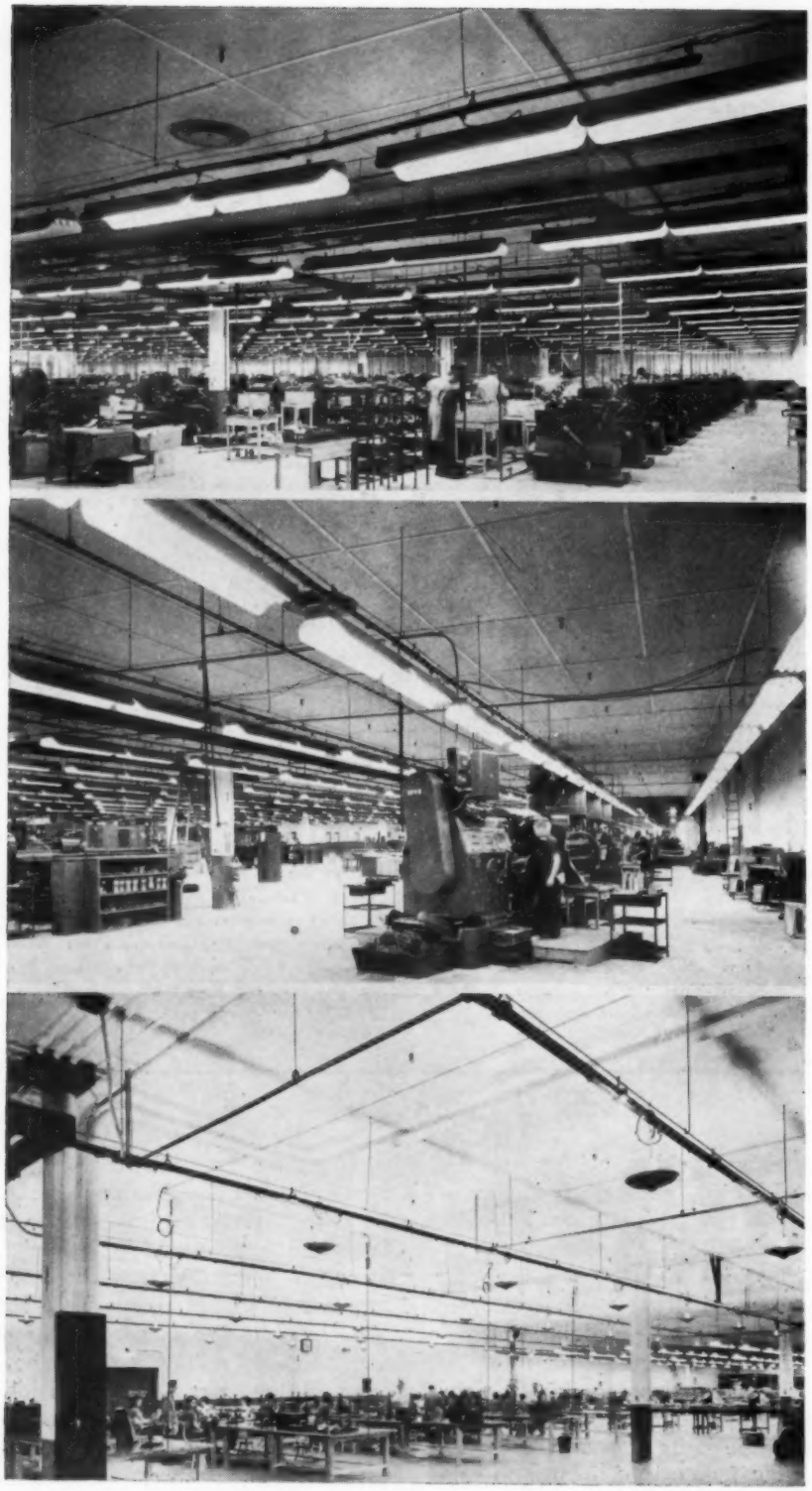
Wholesalers Know Suppliers Intimately

I think one of the reasons why the wholesaler has been able to step into the breech and aid so materially in the present situation is because of his intimate relationship with his suppliers—a relationship which manifestly cannot be created to the same degree between contractor and supplier because of the far greater number of contractors. The wholesaler's principals, sales executives and even the high-bracket salesmen make periodic trips to the manufacturers' plants. There they get acquainted not only with executives but with factory engineers, production men and various other department heads. Thus, they have friends in court, so to speak, in times of emergency, such as the individual contractor cannot hope to claim. Now that this expediter business has come along, the wholesaler and his salesmen have been able to get things done because they can talk or telegraph or write to people whom they know. Therefore, in the same way that we get service out of the wholesaler, the wholesaler in turn is able to get consideration and service out of the manufacturer.

There are some things that I am not asking the wholesaler's organization to do under present conditions particularly, although it is my understanding that such services are asked for by some and are forthcoming. I am not asking the wholesaler to contribute his time to aid us in pricing bids. Neither am I asking them to aid in the planning of the work or to render engineering assistance. Our organization is set up to do this, which is work that the contractor should rightfully undertake to do in its entirety.

What I do ask of them is to help us to get the materials that we need in the shortest possible time, so that we can go ahead with assurance in bidding the jobs and in completing them on schedule if they are awarded to us. In that respect, the wholesaler has met his obligation, and it would be difficult to say how many of these war construction jobs could have been completed in the time they have been, or even at all, without his assistance.

For Fast Get-Ready, War Plants



By Howard J. Emerson

ALERT wholesalers and wholesalers' salesmen are today continuously on the lookout for new products as well as new methods which can be utilized as a means of increasing the speed or efficiency in war production.

A comparatively new product as well as a new method which fits those specifications is sectional duct wiring which is now being used in many war plant and conversion wiring jobs. It is being made available by several manufacturers and is divided into two basic types: one is steel busduct: the other, more recently developed, is a molded plastic duct which contains hollow copper conductors. Both are made to provide a number of female outlets evenly spaced along the entire length of the duct.

Three views of plastic raceway recently installed in a large eastern warplant. Regular stock sections of plastic duct were mounted on 1 by 2 inch wood backing and suspended on a messenger cable. This method of installation, with the fluorescent fixtures plugged into the duct is seen in both the top and the center photos. In the bottom photo may be seen the versatility offered by such package units—overhead fluorescent and incandescent and bench-lighting have been plugged in where needed. Photo from Pierce Laboratory, Inc.

Change-Overs, Stretch-Outs..... Will Buy Packaged Wiring Flexibility

With speed the first demand in war-time production and flexibility of equipment essential to meet changing demands, any wiring appliance that promotes speed through flexibility justifies its cost

Salesmen who made important sales of such products cite several advantages which have warranted their recommending the use of this wiring method in many new war construction jobs as well as in conversion and changeover work.

Advantages to War Plants

Of primary interest to prospective war plant customers is the element of versatility. As either overhead or benchlighting is plugged into the ducts, any required change in the position of the plant lighting means only the removal and re-plugging at the new location—a moment's time compared with the time and labor involved in re-locating the conventional types of permanent wiring. Such arrangement of sectional wiring has already proven itself of outstanding value in cases where production changes required the rearrangement of machinery and lighting without appreciable delay.

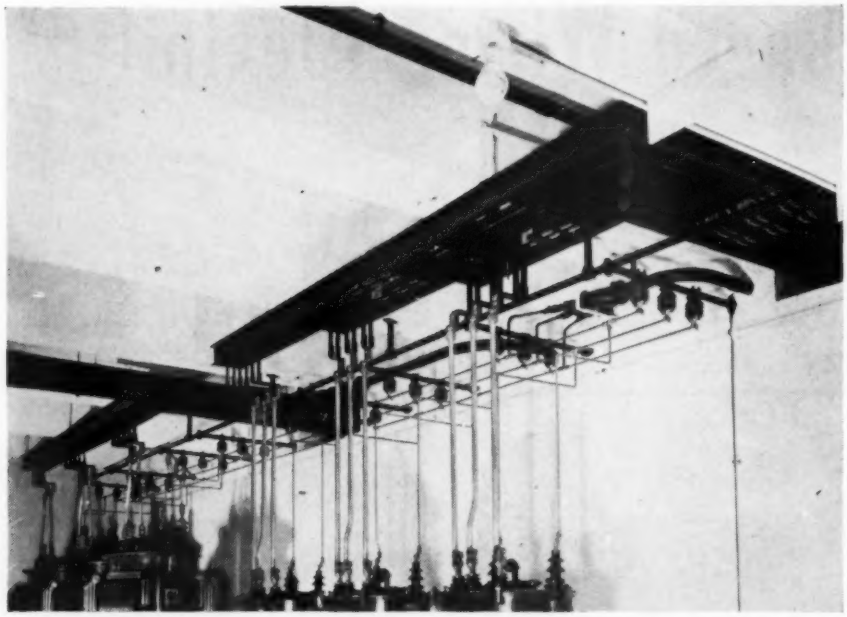
To suit production requirements, additional overhead or bench lighting can be added at any one spot wherever these newer units are used merely by plugging the lighting units into the duct. Such a use of multiple outlets also makes it simple to change the type of light to suit the job, or to add extra lighting units at a moment's notice.

When the same type of wiring is

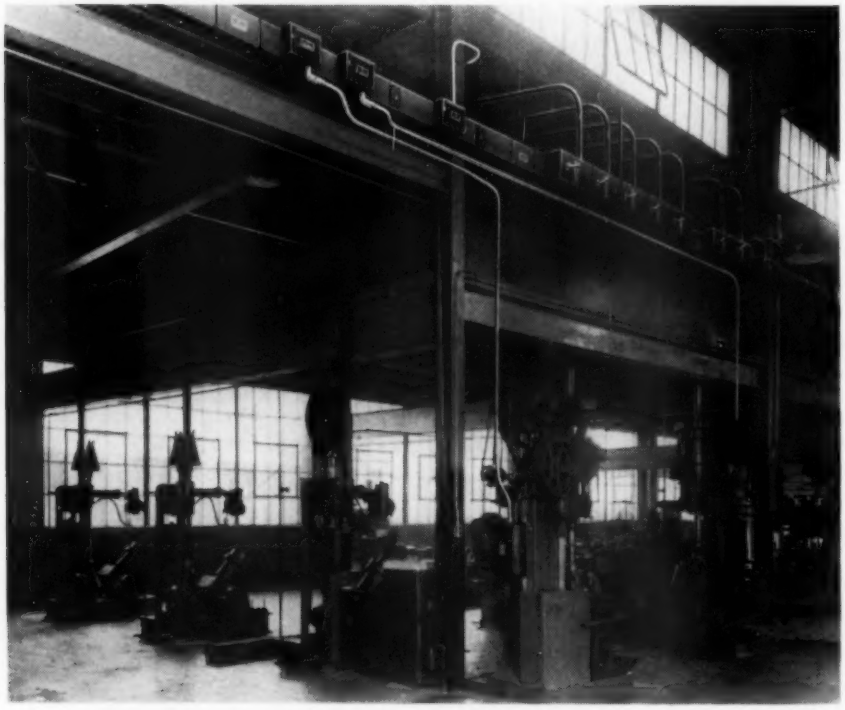
Supplying power in a new airplane motor factory is this run of plug-in steel duct. It is mounted flatwise, and is supported by the big cross beams and at intermediate points by trapeze-type hangers. Swing plugs are used with flexible conduit and run through the pulleys down to the machines. Photo from BullDog Electric Products Co.

used to carry the power current, extra flexibility is offered the manufacturer. Then, not only the overhead lighting, benchlighting, small power tools and electrically operated inspection gauges may be moved freely, but also the heavy machinery may be relocated and have power available instantly.

It will be apparent immediately to any wholesaler's salesman just how important this element of flexibility is to war plants today. The ever changing requirements of global warfare at any moment may demand a quick changeover in any war plant. To be able to make this changeover without having it involve extensive changes in the basic wiring of the plant means that much additional time is saved in getting under way with producing the new or improved weapons or material needed to win the war.



Another installation of "packaged" wiring, with open type feeder installed with a transformer bank in a large mid-western plant. Large blocks of low-voltage power are being used. Trumbull Electric Mfg. Co. photo.



A large metal products plant uses a run of 750-ampere steel plug-in duct for its welding power supply. Vacuum switch plugs are used in the circuit. BullDog Electric Products Co. photo.

Advantages to the Salesman

Of course, any advantages which might be considered personal to the salesman must at the moment be considered secondary to advantages which contribute to the winning of the war, but it is worth noting here certain characteristics of sectional duct wiring which do make it easier for the salesman and the wholesaler's organization to warehouse and sell these units.

The handling of this material in and out of stock and for delivery presents the minimum of problems. For instance, almost any job can be sold and delivered using standard package units, regardless of the quantity needed or the various load requirements of the job. At a large eastern war plant construction job recently, the complete order for 32,000 feet of sectional wiring was made on one order sheet. It was delivered ready for installation. Such features saved the salesman and the wholesaler's organization considerable time. The entire lot was purchased from one supplier, made in one delivery, and billed at one time. And a very important war plant was able to swing into more and faster production with the minimum of delay.

Sectional Wiring Installations

Already there are many examples of how the use of sectional duct wiring is making war plants ready for any needed changes in wiring requirements.

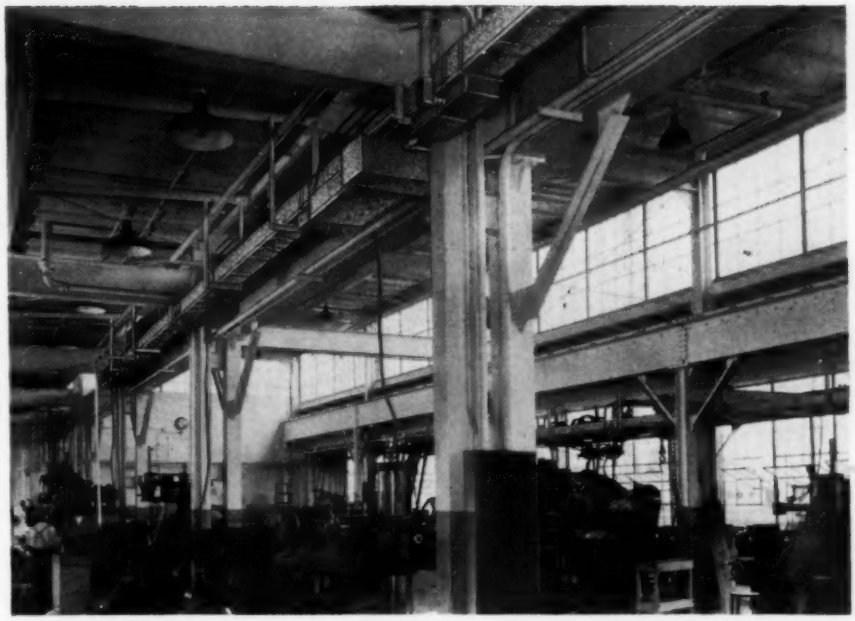
One of the latest of these jobs was sold by George Williams, salesman for a large eastern electrical wholesaling house. Wholesaling experience that dates back to 1907 has made Williams alert to the needs of his customers, as was apparent when he was called in on a job which involved the wiring of a new war plant which was to be built in his section of the country.

Knowing that any attempt of the nation's war industry to keep in step with our armed forces during the coming period of attack will require versatility, Williams suggested the use of sectional plastic duct for the lighting and small power tool circuits and heavier steel busduct for the power circuit. After consideration, both the contractor and the design engineer agreed that such a type of wiring would best serve the needs of the new plant.

Today, with that war plant in operation supplying the needs of our armed forces, and with a 25 percent plant expansion underway, it is worth noting the success of this installation.

In a letter, the general manager of the company said, in part ". . . We are naturally very well pleased with this installation due to its extreme flexibility which, under the conditions of war, make it possible to shift equipment and lights readily in order to meet production requirements."

So again a wholesaler's salesman had shown the way toward speedier and more versatile war production. And through his success with this job he has shown the way to other wholesalers' salesmen.



Heavy machine tools in this war plant receive their power from the overhead steel duct system. Machines may be moved without requiring new wiring system. Photo from Frank Adam Electric Co.

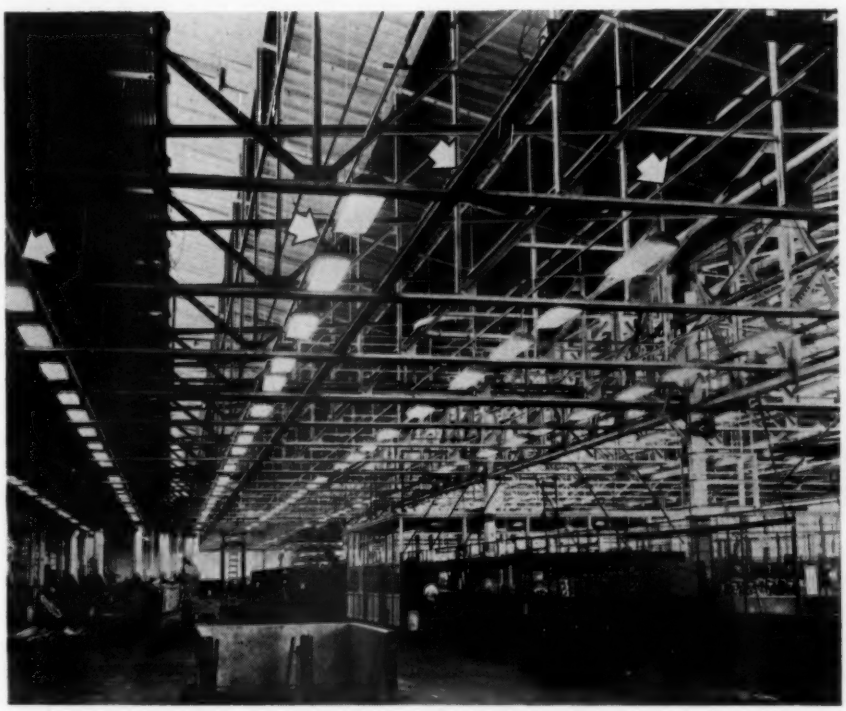
Steel Duct Installation

Think of what a help to the war effort a salesman is when he helps in such a job as this recent war plant wiring. Only by being up-to-date on the uses and versatility of his products and particularly by knowing where and how to recommend a specific type of product can such an achievement be attained.

As for instance in another case, when it was decided to use sectional duct for the distribution of power because the maximum in safety, flexibility and efficiency were needed, due to the type of products made. This installation involved the use of 5 feeder runs of 1500 amp., 3 pole, plug-in type metal duct, spaced on 240 feet centers, with each run connected to two or more power transformers. By sectionalizing these runs at points between stations, two or more individual circuits were provided.

Of particular interest in this installation was an arrangement of the duct layout in such a way that the loop system which would ordinarily tie-in the feeders, was eliminated—effecting a saving of 22,000 pounds of steel and 33,000 pounds of copper.

Any wholesaler's salesman would be proud to have a part in saving, through his knowledge of new materials and methods, such an amount of critical materials for the war effort.



A mammoth installation of steel plug-in duct serves to supply the power in this airplane engine plant. Lights are plugged into a similar "packaged" type of duct system. BullDog photo.

War Plants Vote 100 Percent Fo
And YOU Must K

By the Editorial Staff of WHOLESALER'S SALESMAN

"EVERYTHING comes to those who hustle while they wait" . . . even to those long-suffering electrical wholesalers who may have resigned themselves to a war-time role similar to that of the prophet without honor in his own country.

If you've felt that way, particularly after several overtime days or all night jobs where some war plant was started or kept on its road to an "E" through your personal efforts, and when the acknowledgment for your efforts, even your existence, was at the most a hurried "Thanks, Joe" from a manufacturer known across the country as one of THE men behind the men at the front—then hark to a song of praise, for you have been rediscovered, acknowledged and endorsed.

You've been "Okayed" by the boys who know, by those whose responsibility it is to produce what the country needs to win the war.

These war goods manufacturers vote 100 percent for the electrical wholesaler as essential to them in this task of supplying the materiel of war.

In a nationwide survey, these manufacturers, giving their opinion of you and your work to a neutral agency—and doing it voluntarily—were enthusiastic, not only in concurring on the essential position that you wholesalers and you salesmen hold in their production set-up, but they went on to praise you for many of the specific ways in which you have been helping them establish and maintain their tremendous rate of production.

Two Surveys Made

It all started some time ago when an electrical manufacturer, through his advertising agency, sent questionnaires to a list of manufacturers who were known to be 100 percent on war work. Although he had been selling his products through electrical wholesalers for 45 years, he suddenly wondered if the wholesalers were sufficiently active in supplying warplants to insure their being in business for the duration and for the post-war era.

Well, he found out! His agency reported that the war producers had voted 100 percent in favor of the job wholesalers were doing to service them. So conclusive was the evidence in favor of wholesalers that the electrical manufacturer abandoned his plans for extending the survey on a country-wide basis. He no longer questioned the present-day activity of electrical wholesalers, and he had no doubt about their being available to do a bigger and better job for him after the war.

But, WHOLESALER'S SALESMAN was not satisfied to let such an important judgment of the wholesaler's value rest on the voting in only one city. Through a neutral research agency it was arranged to extend the survey to a larger list of war production plants located in 25 most active industrial centers of the country.

Another 100% for the Wholesaler

Electrical wholesalers really collected the $64 on the key question: "Is it an advantage to have an electrical wholesaler in your local territory?"

Every one of these war goods manufacturers voted "Yes!"

There was no longer the shadow of a doubt but that the men who are directing this country's war effort on the production front feel decidedly that you wholesalers have a definite place in our war effort.

The manufacturers felt so positive of their endorsement of you and your work that most of them readily identified themselves by signature, although it was left entirely optional on the questionnaire. And

For Wholesalers

Keep 'em Feeling That Way!

WHO SIGNED THE "VOTES"?

Here again the position or title of the men who signed the questionnaires provides a measure by which the value of the votes might be properly appraised.

There were no clerks or minor employees among them, but instead *that 100 percent vote in favor of the electrical wholesaler was piled up by men who hold responsible positions* and whose considerate opinion was reflected in their voting.

Indication of the care with which they recorded their opinions is found in the differences that are shown earlier in this report in the voting on other than the key question and particularly on the supplementary questions 3-a, b, c, d, e and f.

Here is the score on titles shown with the signatures:

Vice Chairman of the Board	1
President	3
Vice President	4
Vice President in Chg. of Prod.	2
Vice President & Gen. Mgr.	1
Vice President & Treas.	2
Secretary & Treasurer	9
General Manager	3
Asst. Gen. Manager	2
Manager	1
Production Manager	4
Factory Manager	9
General Supt.	4
Superintendent	13
Engineers	29
Director of Purchases	1
Purchasing Agents	34

the fact that all the men who signed were in highly responsible positions with their companies added much to the importance of their endorsements.

Wholesaler's Fee Offset

If any war plant manager grouses over your bill, and lets you know that he's thinking of all the money he'd save if there was no "middleman"—don't you believe him! Chances are that he's among the 94 percent of the manufacturers who answered "Yes" to the question: "Do you feel that, in the long run, your saving offsets the nominal fee charged by the wholesaler?" So he's just griping for effect.

These men, the "Mr. Bigs" of war production, are men who ought to know, and they are in agreement that the services you offer, and which 100 percent of them say they need, *do not cost them or the war effort any money in the long run.*

And, incidentally, that is something to keep in mind, for the answers drawn by that question are of more than immediate interest. Not only do they explode the theory and argument of some people that the wholesaler increases the cost of war-goods production, but they bear importance when they are considered in the light of post-war selling.

The results also present concrete evidence to electrical manufacturers, particularly these who are doing their post-war thinking and planning now, that they can merchandise their goods through wholesalers—offering their customers all the known advantages of wholesaler distribution—and yet will not necessarily increase the ultimate cost of the goods. The manufacturers will know, too, that their industrial customers know, appreciate and expect distribution through wholesalers. What better reason could manufacturers have for adopting a strong wholesaler policy as part of their post-war distribution plans?

Wholesalers Simplify Purchasing

You can practically guess the answer to another question that was asked, but it's nice to see it made official by the war manufacturers themselves. If you've had industrial

G-E DISTRIBUTORS *Offer*

THE "Watch Dog"

G-E FLUORESCENT STARTER

With Rated Long Life

Now, G-E Distributors add a new and improved manual reset fluorescent lamp starter to a line that already includes popular starters for every size of fluorescent lamp.

The G-E "Watch Dog" starter for 40-watt lamps, Cat. No. FS-40, contributes to the efficient maintenance of fluorescent lighting in war plants. It has an average rated life of three years under specified test conditions.

The precision starting of the "Watch Dog" prolongs lamp life and starter life. Starter life is also prolonged by the "Watch Dog's" quick and positive action in locking out dead lamps thereby eliminating blinking. Dead lamps can be removed immediately too. No cooling period is required when the "Watch Dog" is used. And this starter is made ready to guard a new lamp simply by pressing a button. General Electric Company, Appliance and Merchandise Department, Bridgeport, Conn.

THE G-E STARTER LINE

Among other popular starters in the wide G-E line handled by G-E distributors are the FS-2 for 15- and 20-watt Mazda F lamps, the FS-4 for 30- and 40-watt Mazda F lamps, the FS-6 for 100-watt Mazda F lamps and the FS-6NB "Master No-Blink" for 100-watt Mazda F lamps.

GENERAL ELECTRIC

customers throw on the shoulders of you and your staff almost the full burden of procuring electrical supplies, leaving it to you to locate sources of supply, arrange delivery dates, seek out substitutions, collect and explain engineering data, struggle with preference ratings, expedite deliveries—and what wholesaler hasn't found this to be a wartime routine in his industrial sales—then you can well see why 96 percent of the men questioned said "Yes" it did "simplify their purchasing to draw from one source many electrical products."

Cite Specific Helps

In another question, manufacturers were asked to say if any electrical wholesaler had been of help to them in each of several specific ways. And, in every case, a great majority of the manufacturers reported that they had received such help.

Ninety-seven percent said that wholesalers had been of service in supplying essential maintenance equipment.

Seventy-six percent had been assisted by wholesalers in locating scarce materials or products.

More than 80 percent reported that wholesalers had helped them by suggesting and securing alternate materials.

Eighty-six percent said that wholesalers bring them up to date on catalog and price information.

Seventy-three percent of the manufacturers had received engineering data or counsel.

Eighty percent stated that wholesalers had been of service to them in meeting their emergency needs so that their production machinery could be kept running.

Although the above percentages are more than sufficient to warrant the position of the wholesaler and the value to the war effort of each service mentioned, it must be noted here that the small percentage of manufacturers who did not report ever receiving such a particular service, *may never have been in the position to need or request that service*. This would have caused a negative answer on the questionnaire but it would not mean that the wholesaler was not ready and able to perform such a service when the need arose. This is emphasized by the fact that everyone of these manufacturers, regardless of his answer on the specific helps received, stated in the main question that he considered it an advantage to have an electrical wholesaler in his local territory.

In Their Own Words

Many of the men who are directing the production of our country's war goods showed not only the sincerity of their endorsement of the wholesaler by signing their names, but many also expressed their enthusiasm for the wholesaler's work by voluntarily adding comments to the questionnaires they had received.

Such remarks give a good insight to the feelings of these men. For instance, it added real weight to his formal answers when one of them said: " . . . We ordinarily do not fill in questionnaires, but in the case of electrical jobbers we are pleased

VOLUNTARY COMMENTS BY WAR PRODUCTION MANAGEMENT ON THE VALUE OF WHOLESALERS' SERVICE

Consider Wholesalers Very Essential

"In reply to your letter of March 5th, *we ordinarily do not fill in questionnaires*, but in the case of electrical jobbers we are pleased to make a report that indicates that we consider them very essential. In Detroit they do a good job and seem to be very cooperative among themselves.

We are a large consumer of electrical materials as we manufacture Machine Tools with a great deal of electrical control."

Takes A Big Load From Us

"If the organization is on its toes—it is a great asset. We buy exclusively thru wholesaler—because it takes a big load from our own organization."

Would Have Been Lost

"Our Wholesaler has time after time during last year and a half gone beyond ordinary service, in procuring material for us, in fact we would have been lost without him. He has been our friend in need."

Offers the Greatest Service

"The electrical wholesaler offers the greatest service in the supply of the multitude of small items required by an industrial plant. It is realized, however, that this is not his source of profit and must be given many of the major items which could just as well be purchased directly from the factory or the mill. If this were not the case, the wholesaler could not stay in business to render service on small items."

Cost is Offset

"Any saving due to purchasing direct would to my mind be more than offset by individual inventories and loss of time."

We Are Fortunate in Having Several Jobbers

"We have received your communication and are enclosing herewith the questionnaire which you submitted. We are not of the opinion that an electrical jobber is an unnecessary middleman. We are particularly fortunate in Bridgeport in having several jobbers who have helped us out in many emergencies which arise in a plant of our type.

Therefore, we believe that if your client (an electrical manufacturer) will, to a large extent, depend on his electrical jobber, a good many of his problems will be automatically solved."

5 SHIPS A DAY TAKE a LOT of FITTINGS

Large tonnages of our products are being continually shipped through Conduit Jobbers who are awake to the possibilities of this important war-time service to the ship-building industry. We are backing them with excellent deliveries from large stocks . . . and in keeping with our policy, such sales are being made *only* thru the jobber.

Remember, CONDUIT Fittings are our main products . . . not a side-line.

REPRESENTATIVES

IN

PRINCIPAL CITIES

Conduit PIPE PRODUCTS CO.

COLUMBUS, OHIO

PIPE COUPLINGS · PIPE NIPPLES · ELBOWS, 90° AND 45° · RUNNING THREAD PIPE · GOOSENECKS · WALLPLATES

to make a report that indicates that we consider them very essential."

Another said: "Our wholesaler has time after time during the last year and a half gone beyond ordinary service in procuring material for us, in fact we would have been lost without him. He has been our friend in need."

One well known manufacturer declared with firmness his policy: " . . . We buy exclusively through a wholesaler, because it takes a big load from our organization," and the top official of an equally important concern knew and expressed his company's experience with this comment: "In our case the wholesaler has proven to be a definite asset."

The fact that these manufacturers are paying attention to distribution methods and costs is apparent in another's report: "We are not of the opinion that an electrical jobber is an unnecessary middleman. We are particularly fortunate . . . in having several jobbers who have helped us out in many emergencies which arise in a plant of our type. Therefore, we believe that if an electrical manufacturer will to a large extent, depend on his electrical jobbers, a good many of his (distribution) problems will be automatically solved."

Examples of Services Rendered

The reason for these straight-forward endorsements of wholesalers, and for the enthusiastic comments, was evident in the examples which some of the manufacturers described voluntarily on their questionnaires.

These examples give strength to the results of the survey because they show that these important men in the war production plants were not casting a quick, unpremeditated opinion, but that, as good executives, they are close enough to the production line to know what they are talking about.

One of them relates that his company ". . . had an occasion to order some 100 switches in a hurry . . . the purchasing department called the factory for delivery. The best delivery given was eight to ten weeks. We tried to get part shipment, but were given the same time for delivery. So we tried our wholesaler who is close by to see if he had any switches in stock or if he knew where he could get some. The results were that we received 34 switches in one week and the remainder followed one week later . . . gave us ample time to finish our job of very urgent government work in the time that was allotted."

Another war plant man reports that "We recently made a complete change of electrical set-up on machines of our own manufacture. Where previously we used a two-position oil switch, we now use a magnetic switch with push-button control providing under-voltage and overload protection. Coil energy and machine illumination being provided by a stepdown transformer. We carry no surplus stock, merely ordering complete units as needed from our wholesaler, who had helped in the selection of the units and assisted in original layout . . . the wholesaler has proven to be a definite asset."

So, once more, the doubters, the theorists, and the "social planners" —those who so frequently bob up with fast talk about "eliminating the middleman"—get a set-back as the plain facts are presented. Once again, through this survey, the place of electrical wholesalers is more than merely justified, it is extolled as a constructive element in our economic system.

For, it is doubtful if any group is more competent to judge the value of the electrical wholesaler than those top men in war production plants, in whose ability and generalship must be found the success of our "production front."

And these men voted 100 percent for the electrical wholesaler!

SAMPLE OF THE QUESTIONNAIRE ON WHICH MANUFACTURERS ENDORSED WHOLESALERS

Here is part of the wording of each question used in WHOLESALER'S SALESMAN's National Survey and how it was answered on the 165 questionnaires that were returned:

	Yes	No	No Answer
Question No. 1 (Key Question)			
Is it an advantage to have an electrical wholesaler in your local territory	165	....	....
Question No. 2			
Does it simplify your purchasing to draw from one source many electrical products	158	6	1
Question No. 3			
Has any electrical wholesaler been of war-time service to you in:			
(a) Keeping you supplied with essential maintenance materials?	116	4	45
(b) Locating scarce materials or products?	120	29	16
(c) Suggesting and securing alternate materials?	117	23	25
(d) Bringing you up-to-date catalog and price information?	131	19	15
(e) Offering engineering data or counsel?	110	30	25
(f) Meeting your emergency needs so you can keep your production machinery running?	122	24	19
Question No. 4			
Do you feel that in the long-run your saving offsets the nominal fee charged by the wholesaler	151	7	7

Electronics in Industry — A Glimpse Into Future Sales Opportunities

NO hard-headed business man is going to spend his money on any new fandangled science—Electronic or otherwise—until he is convinced it is economically sound. In short, I don't feel that any Electronic application can expect to get very far in industry unless it does the job better, faster or cheaper.

Fortunately, though, there are many jobs where Electronics does just this and there is no doubt in my mind but that many more will be uncovered as time goes on, and as we are allowed to draw back the veils of secrecy created by the war.

Sometimes, though, I think there has been too much "blue sky" on this subject. Many predictions have been made by those who know and those who do not know. Some ads, by inference, have given people ideas that may still be years and years away. I don't think this is fair to an art that has so much possibility.

So I intend to confine my observations to facts—applications that are based on actual experience—not those of someone else or what someone thinks, says or believes can be done.

Treating our subject—"Electronics in Industry"—from this standpoint, just what has this modern servant done for business, the industrial business in particular?

Generally speaking, I would say Electronics serves industry in one or all of the following ways:

1. As a means of power rectification and inversion
2. Communications
3. Extending the senses
4. Increasing detection
5. Safety and protection
6. Calculating
7. Measurement—physical, electric and chemical
8. Control
9. Welding, process and miscellaneous applications
10. Heating and drying

In each and every one of these fields, many have had experiences, and I could use up my allotted time by just highlighting these efforts in various fields, but instead, with your permission, I intend to spend what time I have on just one of these uses.

It will not be No. 1—a field in which considerable pioneering work has been done particularly with transmitting and rectifying tubes. In fact most of the more recent Electronic applications have been made possible by the development of new and more efficient tubes of a variety of types and sizes.

Nor will I devote my time to the broad division referred to as Communications, under which heading could come sound systems, industrial music and Television. Certainly on Television alone, I could take up more than my allotted time since I have been fortunate enough to have been associated with an industry that has been responsible for many advancements in both the theatrical and home field.

Neither will I dwell on No. 3—Extending the Senses—since this could well be made the topic of a complete discussion. The Electron Microscope extends man's senses as does no other medium. A development of the Laboratories, and with more than 48 such instruments in use, the story of the many wonders already uncovered would make a talk in itself.

Again, Detection—while a big temptation—I also elect to skip, although the story of our bottled beverage automatic inspection machines and detection equipment are important enough to spend several hours on.

Likewise, I intend to jump over all the others—way down to the last one—"Heating and Drying." In the time allowed I would like to give you a brief review of some of the things Radio Frequency is doing in this field. Radio frequency power, incidentally, is obtained from an oscillator, the same as is used by a broadcast station. But even confining my remarks to this one application, it is going to be necessary to limit myself to work done in only a few industries. Maybe it would be smart to explain what I mean.

Heating and Drying

In the Industrial Division, we find ourselves in a position somewhat analogous to a person sitting in a room completely made up of doors—each door is labelled some one industry—food, plastics, lumber, rubber, textiles, metal—and there are prospects knocking at each door anxious to come in because for some unknown reason they feel that once they get in their problems are solved.

Frankly, we don't think we are that good. To be sure, we know some of the angles, but because of the war, manpower shortage, and all those other things you gentlemen are so familiar with, it is impossible to answer all the "knocks"-on-the-

By D. J. Finn*

D. J. Finn

door and we have been able to do only an infinitesimal fraction of what we would like to do. Some of the things we have done independently and in cooperation with others, are what I intend to discuss with you. But in the event all of you may not be of a scientific bent, I think you might get a better conception of what I am talking about if we had a little understanding.

First, depending on the material to be heated, we refer to the process as Radio Frequency Induction or Di-electric Heating. So called non-conducting materials, as thought of in terms of 60 cycle house current are best heated di-electrically. Substances such as wood, paper, cloth and various compositions are good examples of what I mean. Conducting materials, such as metals, are best heated by induction.

With Radio Frequency Di-electric Heating, the heat is generated from the di-electric losses in an electrostatic field, and electrically, it is thought of in terms of a condenser, the material to be heated corresponding to the air space between the plates of a condenser. You are familiar with the diathermy machines which are widely used in hospitals, clinics and by physicians. Well, it is this same principle that is employed in Radio Frequency Di-Electric Heating of materials in industry.

With R.F. induction heating, induced currents flow in the material and heat is generated by eddy currents and hysteresis losses, and electrically it is thought of in terms of a coil wound around the material to be heated. Possibly you would understand the phenomenon that takes place better, if you likened it to the radiant heat of the sun. The sun-rays pass through space with little loss, yet when they strike a dark body (in space or on the earth) the surface is heated. In like manner, the high frequency pulsating magnetic waves radiated through the coils pass through all insulating material with little loss and create heat when they strike any metallic body.

With these two basic concepts in mind, I believe you will better understand what goes on when you see some of the ways this form of Electronics is put to work in industry.

The secret of the success of R.F. heating is that in all its applications, the heat is generated in the object, and no transfer of heat is required as is the case with flames—hot plates and other methods normally used. It is this advantage that makes R.F. heating and drying so desirable and more efficient than other processes.

But when to this asset is added the fact that with R.F. it is not necessary to heat associated elements; that actual contact with the material to be worked on is not necessary with induction heating; that the surfaces of the material under consideration are not adversely affected; that there is little heat loss to surroundings, which means more desirable working conditions; that gases are eliminated, which means less likelihood for corroded surfaces; —then you begin to understand why (from an operating standpoint) R.F. is receiving so much attention and is making such advancement in industry.

Primarily, because of the speed element, R.F. got its first real opportunity. And, because the Aviation Industry seemed to be the most pressed for time, due to the war, here it was that R.F. found its first users. To give you some idea of what I mean, let's consider the time saved in producing compregwood propellers.

By the ordinary processes, the time required to produce a finished job would be something like 24 hours. With R.F. heating it can be produced in 30 minutes. This means not only a saving in time, but a saving in labor and press facilities.

This particular propeller was made by the Camfield Manufacturing Company using R.F. Di-electric Heating. First, maple sheets of $\frac{1}{8}$-inch thickness were impregnated with a phenolic resin which was then dried and a phenolic glue applied. The individual pieces were then stacked, hand-clamped and placed in a kiln to "tack" the glue sufficiently to hold the sheets. The stack of sheets were then placed on a carving machine and carved out to give the required pre-form. This pre-form was then placed between the electrodes of the R.F. installation and sufficient R.F. power applied to bring the entire pre-form up to the moulding temperature, then placed in a die which closes in three or four minutes. When removed, you have what you see here —the finished product. A similar procedure is employed in the manufacture of propeller blocks, airplane spars, ribs, wing structures and other parts of a plane.

In addition to these specific applications of R.F. Di-electric Heating in the wood industry, it is equally suitable for use in the plastic industry. In the opinion of leading manufacturers in the plastic moulding field, the introducing of R.F. is the

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** General Sales Manager of the Industrial and Sound Division of RCA Victor Division, Radio Corporation of America. Excerpts from an address delivered by Mr. Finn before the National Conference of Business Paper Editors.*

THIS PENNSYLVANIA WAR PLANT PICKED

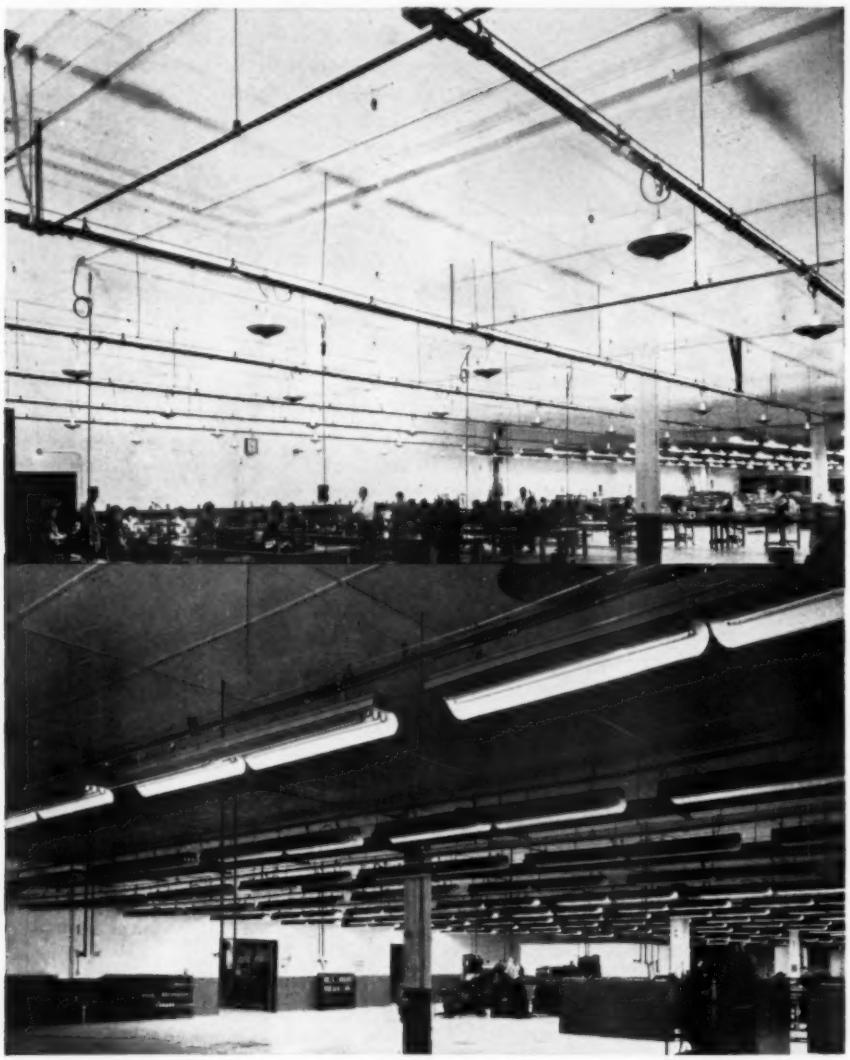
These photographs show how Pierceway Plastic Duct has been installed in a large new Pennsylvania war plant to supply current for both overhead and local bench lighting. In many other plants Pierceway duct is being used as the quickest and most flexible way to extend electrical service to wherever it is needed for lighting or portable power tool operation.

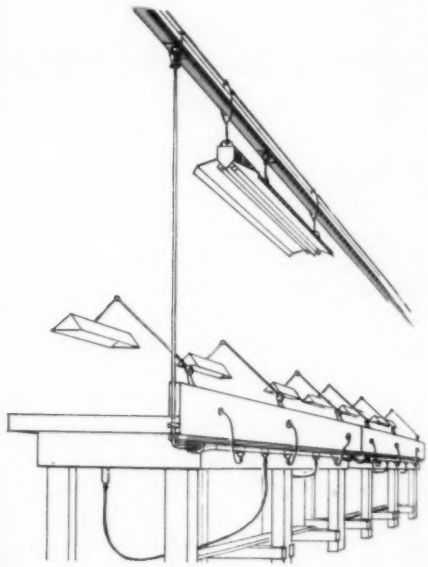
Pierceway TRADE MARK

PLASTIC DUCT

For its Lighting System

Two views showing part of the Pierceway system that provides thousands of feet of overhead and bench circuits in the Pennsylvania plant. (These photographs were taken between shifts.)





INSTALLATION DETAILS: For the overhead installation in this plant, 21,000 feet of Pierceway Plastic Duct were installed. The duct was pre-assembled in 10-foot lengths mounted on 1" x 2" wood backing. The overhead system is suspended from messenger cables directly above the fluorescent fixtures, which are plugged into the Pierceway Duct by 3-wire cords. The system is fed through flexible non-metallic tubing from a primary system in the ceiling.

In addition to this overhead system, a supplementary bench lighting system has been installed to provide "spot lighting" for precision work on the assembly of small parts. In this installation, 1,400 feet of Pierceway Duct has been mounted on 120 benches to deliver electricity for the local bench lighting. This Pierceway system is fed by synthetic insulated cords dropped from the overhead installation.

To assure constant voltage and avoid flicker, both overhead and bench systems are supplied direct from local sub-station power busses through a separate system of transformers, panels and branch wiring.

PIERCEWAY PLASTIC DUCT WIRING SYSTEMS ARE LISTED BY UNDERWRITERS LABORATORIES, INC.

FLEXIBILITY OF INSTALLATION

The sectional construction of Pierceway systems provides maximum flexibility of installation. With the required number of Pierceway sections (see cut) the plastic duct can be arranged into any type or size of system desired. Easily and quickly taken apart and reassembled to meet changes in wiring requirements.

PIERCEWAY USES A MINIMUM OF VITAL MATERIALS—100% SALVABLE

A PRODUCT OF **PIERCE LABORATORY, INC.** 40 WEST 40TH STREET, NEW YORK 18, N. Y. FACTORY: SUMMIT, NEW JERSEY

greatest single advancement in the last 29 years, and by means of it, the saving in time is greatly increased.

So much for di-electric type R.F. heating. I could, if time allowed, discuss other uses that have been developed for other industries, such as the rayon, rubber and food industries to mention but a few. You get the idea, so let's take a quick look at R.F. induction heating. This is the process that plays such an important part in operations such as case-hardening, soldering, brazing and melting of metals.

Soldering

As in Di-electric Heating, the time required for a given operation is greatly reduced since heat is actually induced in the part instead of being transferred from a hot plate or gas flame. As an example of what I mean, let's consider the soldering of the terminals of this transformer can. Instead of soldering each terminal separately, we place rings of solder under the various terminals and then place an induction coil such as this around it, all of the terminals are soldered simultaneously in a matter of seconds, and a better job is done.

In our plant at Camden, the soldering of the bases of condenser cans that go into sets was a bottleneck. It was a slow, hand operation,—very tedious —but now, by means of a conveyor belt, each can be passed through an induction coil and a production of 2500 per hour can be obtained as contrasted with one of 100 per hour.

Case Hardening

Since the earliest days, the case hardening or tempering of metals has been a major consideration. In Medieval History, we read of the methods used by the Knights of Old to temper or harden their swords. One historian tells us that when the red-hot blade was taken from the fires, it was plunged into the belly of a fat Nubian slave. Other methods involving the use of goats' milk as a quenching agent, are also recorded. But it had to be a particular type of milk. Only milk obtained from goats that were fed green ferns by a red-headed boy for a period of three months could do the job, and it was most important that it be a red-headed boy. The chemical reaction I guess!

The procedures of yesterday do not apply today, because we at least do not resort to such strenuous or unscientific methods. It is only within comparatively recent years, though, that Industry has found that with R.F. Induction Heating a major advancement in methods is obtained. With R.F., it is possible to do a much more precise type of job, in that the depth and area of the case hardening or skin effect can be much more closely controlled. Also with R.F. self-quenching methods are possible. The quench is brought about by having the heat flow back into the metal rather than having water or some other cooling fluid applied externally. By controlling the ratio and the frequency at which the R.F. power is applied, the degree or depth of hardening can be mathematically predetermined, which results not only in precision hardening, but reduced distortion and less decarbonization.

Here is a sample bar that has been case-hardened. It was passed through a coil like this, and as you can see, the process can be confined to the entire bar or any specific portion of it.

Electronic "sewing" machine, a forerunner of many post-war industrial applications of electronics, is used for fast, accurate joining of thin plastic sheets. This girl is being taught how to "'sew' a fine seam" in two sheets of a thermoplastic fabric material. Radio frequency current replaces the usual needle and thread. (RCA photo).

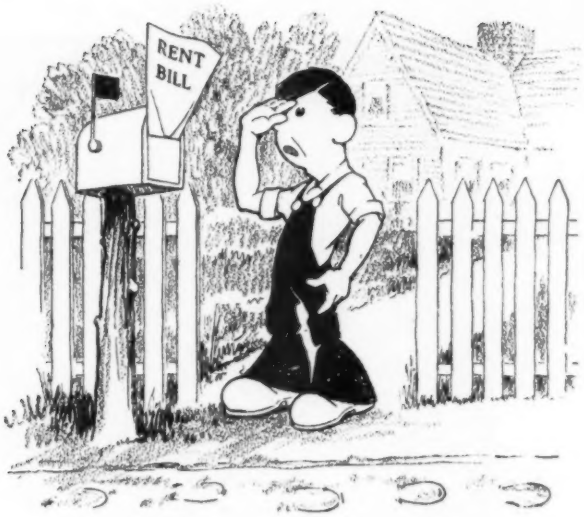
Riveting

Most of you, I believe, are familiar with the usual method of riveting; one man hammers the rivet while another holds a bucking tool. This method has been used since riveting started. It is satisfactory except where it is difficult to reach the other end of the rivet. One aircraft manufacturer even uses midgets to try and reach inaccessible places, but wing tips are even too small for midgets. This meant that a skilled workman could rivet only one or two of the old-styled rivets in a minute, and with the number of rivets involved, that was too slow. To get around this, the DuPont Company developed an explosive rivet which does not require a helper to get at the other end. The rivet has a sensitive explosive charge in one end. When it is fired, this end expands and holds the two pieces of material firmly together.

The advantage of this type of rivet is obvious, but the method of firing with what was essentially a soldering iron, having a silver tip, was not satisfactory. Considerable time was required to bring it up to the proper temperature and in changing from one rivet to another it involved a temperature change. To find a more satisfactory solution for firing the rivets, the Radio Frequency Detonator was developed. As you can see, it consists of an oscillator with a specially developed applicator to concentrate the current directly into the rivet head. As the current is induced into the rivet head, the rivet heats very rapidly and this heat fires the charge.

With this method, we have better temperature control since the power output of the oscillator can be quickly changed to suit the requirements of the various sizes of rivets. A number of rivets can also be put in ahead of the riveter, and held in place by scotch tape, since it does not interfere with the action of the R.F. device and most important, 15 to 20 rivets a minute can be fired as contrasted with 1 or 2 under the old method.

In closing, may I say that in the opinion of our scientists at Princeton, better known as Electronic City, in the opinion of the some 75 odd industrial plants we have been privileged to work with, as well as in the opinion of those of us trying to sell Electronics to Industry, we feel that the surface has only been touched. No one knows all the new methods Industry will evolve to make it possible to produce more and more sales to more and more customers. About all we know is that this is a fast-moving Electronic world we are living in.



NEED A FRIEND?

IT'S ONE THING to sympathize with a guy whose peace-time business has gone to pot. But it's another thing to show him how he can be doin' essential War work, an' still make a buck.

Isn't keepin' war plants turnin' out axis-bustin' products essential?

Isn't the maintenance and repair of all electrical equipment includin' the wiring essential?

Well, this Line of T & B Pressure (Solderless) Connectors is just what War plants should be keepin' on hand to prevent the breakdowns that hit production in the solar plex.

An' you're just the boy to see that they have 'em.

Speakin' of connections that hold fast, here's remindin' you that under the T & B Plan all T & B products, barrin' none, are distributed exclusively through Wholesaler outfits like yours.

Reddy

T & B MAINTENANCE *and* REPAIR LINE

HINJON JR TEE-PARALLEL TAPS

LOCK-TITE LUGS

LOCK-TITE 2-WAY CONNECTORS

LOCK-TITE TEE-PARALLEL TAPS

A small assortment is all your customer needs to lug, tap and splice any type of conductor—solid, stranded, flexible, extra-flexible, hemp core, rod or tubing. These T & B Connectors will take care of 90% of his wiring problems. Easy and fast to install. Engineered pressures defy man-made vibrations. If you've mislaid our booklets on M. and R. write for fresh copies.

FOR EVERY WIRING PROBLEM T & B HAS A FITTING ANSWER

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A PRIMER OF ELECTRONICS

By
DON P. CAVERLY
Commercial Engineer
Sylvania Electric Products, Inc.

Published by
WHOLESALER'S SALESMAN
A McGraw-Hill Publication
330 West 42nd Street, New York, N. Y.

Announcement In this issue we present chapter summaries of this important work together with a FOREWORD by the author. We regret that due to war-time conditions over which we have no control, publication of the first installment of this book had to be postponed until our August, 1943 issue.

The Editor

A Primer of Electronics

Contents

PART 1

ELECTRIC CURRENT

Chapter 1 Chapter 1 deals with the basic structure of the atom, as developed by Bohr, and with particular emphasis on the physical characteristics of the electron itself as far as has been determined. It covers certain natural electrical phenomena such as static and electron discharges found in every day life. Electric current flow, units of measurement such as the ampere, the volt, and the ohm, is explained in as simple language as possible.

Chapter 2 Chapter 2 covers the characteristics of electrical conductors and the effect on current flow, that is, how the resistance varies with the length, diameter and temperature of a wire. The unit of electric power, the watt, is discussed and simple formulae given. Since there is a close correlation between electric power and energy, an explanation of both potential and kinetic energy is included with simple illustrations of each.

PART 2

MAGNETISM

Chapter 3 Chapter 3 covers the basic principles of magnetic force with an explanation of electromagnetism and how it is produced. Generation of electric power, both alternating current and direct current, is also covered, and the chapter deals in a simple and complete way with rotating electrical machinery, such as generators and motors.

Chapter 4 Chapter 4 covers the principle of mutual inductance with an explanation of the operation of transformers and windings. Capacitance and inductance are also covered and a complete explanation of power factor in as simple language as possible with diagrams is included.

Chapter 5 Chapter 5 covers such terms as "inductive reactance," "capacitive reactance," and "total reactance." It also has a brief explanation of the terms resonance and harmonics.

PART 3

ELECTROMAGNETIC RADIATION

Chapter 6 Chapter 6 deals primarily with various types of waves, that is, simple waves, which are seen on the surface of water, the characteristics of sound waves, as transmitted through air, liquid and solids; and electromagnetic waves throughout the entire ether spectrum.

Chapter 7 Chapter 7 deals specifically with light as one region in the ether spectrum. It covers the nature of visible light waves and how

they are generated. The control of light by reflection and refraction is included. A brief explanation of spectra and the characteristics of polarized light are given, and a complete explanation of the various units of light measurements such as candlepower, lumens and footcandles is included. Also in this chapter is a treatment of color temperature and the theoretical black body.

Chapter 8 Chapter 8 covers primarily infra-red radiation as the second most important region in the range of electromagnetic waves. In this chapter heat conduction, convection and radiation is explained, and many of the most important infra-red applications are covered.

Chapter 9 Chapter 9 deals entirely with ultra violet as the third most important region in the ether spectrum. Considerable space is devoted to solar ultraviolet and sunburn; and ultra violet generation by artificial sources is also covered. The application of ultra violet of various wave lengths and their effect is treated in some detail.

Chapter 10 Chapter 10 covers the group of electromagnetic waves of a shorter wave length than ultra violet, that is x-rays and their application, gamma rays and radioactive elements, and the latest theories concerning the generation and nature of cosmic rays.

Chapter 11 This chapter jumps back to much longer wave lengths which are used in radio broadcasting. The uses of different wave lengths that is, common radio waves, short and ultra-short radio waves are included. A brief explanation is given of frequency modulation, carrier waves and radar, with mention of the region between infra-red and the shortest radio waves which is at present under development. Also treated in this chapter are the long waves and slow oscillations of power transmission.

PART 4

ELECTRONIC DEVICES AND CIRCUITS

Chapter 12 This chapter deals with the basic principles of electron emission and flow. It covers the operation of the simpler radio tubes known as diodes and triodes, and also how they are connected in simple circuits, and how electrons are made to behave in accordance with predetermined requirements.

Chapter 13 This covers the second most widely used electronic device—known as the fluorescent lamp. An explanation of the basic principles of fluorescent lamp operation, the two-lamp circuit, and the sequence starting circuit is given. Some explanation is also devoted to cold cathode fluorescent lamps.

Chapter 14 Chapter 14 covers the basic principle of cathode ray tubes and the electron gun. The use of oscillographs and how the cathode ray tube operates is also covered. A complete explanation of the basic principles of television with simple diagrams is included.

Chapter 15 Chapter 15 covers in a broad way other important electron tubes such as the ignitron, thyratron and several others. It also includes simple diagrams showing hook-up and explanation of these devices.

To assist in conserving rubber...

HAZAPAK RUBBERLESS WIRE

• SAVES RUBBER • SAVES TIN
• SAVES CRITICAL SYNTHETICS

HAZAPAK Rubberless Building Wire is approved by the Underwriters' Laboratories, Inc., under the provisions of Interim Amendments 44 and 69 of the National Electrical Code.

In this new rubberless building wire, in place of the familiar rubber insulation, there are two separate materials – (1) a thin layer of Kodapak (cellulose acetate butyrate)–a pure insulating material–covering the copper conductor, over which is wrapped–(2) a compacted cushion of crumpled moisture-proofed kraft paper for mechanical protection.

An overall covering of cotton yarn, saturated and color-coated to make it moisture-proof and flame-resistant, provides a finished wire which has the same appearance and diameter as rubber-insulated building wire.

There are two types of Hazapak Rubberless Wire, i.e.: Type EG (Emergency Grounded) and Type EI (Emergency Insulation).

Emergency Grounded Wire, Type EG, is the Underwriters' Laboratories designation for "wire of a type especially approved" in open wiring; in concealed knob and tube work; in non-metallic sheathed cable and as the grounded wire in any of the wiring systems covered by Articles 320 to 364 of the 1940 N.E.C. as provided in Interim Amendment 44. It is used as the white grounded conductor in assemblies such as Hazardex non-metallic sheathed cable and multiple-conductor lead-encased cables. Hazapak Rubberless Wire, Type EG, is always finished white and carries no surface markings. An attached tag indicates that it is to be used only on grounded circuits.

Emergency Insulation Wire, Type EI, as defined in Interim Amendment No. 69 of the 1940 N.E.C., may be used as the ungrounded conductor for non-metallic sheathed cable run exposed, or for open wiring on insulators, under the following conditions: 1. In dry locations only; 2. For voltages not exceeding 600; 3. If there are more than four conductors larger than No. 10 in an outlet or junction box, or in a cabinet or cutout box, the conductors must be individually wrapped with non-combustible, insulating tape. Type EI conductors should not be used in any hazardous location, except as provided for open work in Section 5075. In damp and wet locations, EI may be used with lead covering, Type EIL, in accordance with Section 3035. Type EI, as distinguished from Type EG, is surface marked and measured every two feet the same as rubber-insulated building wire. It is produced in standard building wire colors: black, red, green, yellow and blue. Underwriters' Laboratories approval labels marked "Type EI Building Wire" are attached to each coil or reel.

In the move to conserve rubber, the Civil Aeronautics Authority, Spec. 612, authorizes the use of wire such as Hazapak Rubberless for airport wiring, in ducts or for installation directly in the soil; the Federal Works Agency, Public Buildings Administration in its Suggested Specifications to Architects recommends the use of non-rubber insulated wire like Hazapak Rubberless under certain conditions; and specifications issued by office of Chief of Engineers, War Dept., Construction Div. for Theatre of Operations (Modified) and Mobilization Construction, Section 34 Interior Electrical Works, permit the use of Hazapak Rubberless Wire.

Our sales engineers will be glad to give you further details about Hazapak Rubberless Wire, samples, deliveries, etc. If you have not received full data on Hazapak, write for a copy of Bulletin 210.

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ARMY E NAVY

3334

DON P. CAVERLY

Foreword

There are today, in the electrical industry, thousands of men and women who, not being engineers, know little or nothing about the products with which they deal. This treatise is written to and for them—the salesmen, store clerks, stenographers and, in fact, all individuals who, the author has found, would like to know a little of the basic principles behind some of the common electrical devices in everyday home and commercial use. A deliberate effort has been made to remove the complex technical aspects with which electrical engineers and physicists must deal, and which quite naturally make the non-technically trained person shy away.

Mankind has crossed the threshold of a vast realm in which electricity will serve him to an almost inconceivable extent. Electric light and power, the telephone and the radio are firmly established in the lives of everyone. Television for all homes is receiving its final grooming and is ready to come out of the laboratories. These things are accepted by the average person, much as a matter of fact.

We hear a great deal today about electronics. No one knows to what extent electron tubes and devices will affect our lives in the not too distant future. The war brought many of them out of the laboratories and into practical use as vital weapons of warfare. Soon, they and many others will find practical uses to insure peace and bring untold wonders into the fields of communication, education, entertainment and commerce. Hints of what is to come are found every day in the magazine advertisements of manufacturers.

The thread of "electronics" has been woven through the entire story so that even though some phases through which the reader passes may seem to stray away, this thread will serve as a guide line to bring him back to the purpose for which the story is written—to give the average man a basic understanding of how that infinitesimal little servant, the electron, works for him.

Recent WPB Orders And Revisions

9-S Marine Fittings Explained in Navy Letter

The latest information regarding the supplying of 9-S fittings has come from a recent letter issued by the Navy Department's Bureau of Ships and the Bureau of Supplies and Accounts.

Of most interest to wholesalers is the statement ". . . it shall be considered that the intent of references (a) and (b) (which established a list of approved manufacturers producing electrical fittings and fixtures) shall be complied with in the event of the electrical equipment being . . . furnished through recognized suppliers who procure this equipment from these manufacturers."

Further explained in the letter was that "It shall be understood that switchboards, panels, controllers, cabinets, storage batteries, and casualty power equipment are not classified by the Bureau as fittings or fixtures."

The letter went on to clarify another point, that "it should not be considered that the list of manufacturers (those approved by the Bureau) does not include those manufacturers producing molded phenolic pieces for 9-S electrical fittings and fixtures. It also does not include manufacturers who produce component parts of 9-S designs such as lamp sockets, switches, terminal blocks, connectors, and miscellaneous fittings such as screws, nuts, bolts, handles, etc."

Appliance Production Resumed for Military—L-65

A completely revamped General Limitation Order L-65 was issued by the WPB on June 17, providing for the manufacture of several more kinds of electric appliances for preferred orders, and for a limited production of certain kinds of heavy duty electric appliances for commercial civilian use. The amended order also tightens control over production of repair parts through restrictions, limitations, and a trade-in-or-scrap plan.

No new production of appliances for general civilian use is provided by the revised order. Its principal effect on consumer appliances is in banning the production of repair parts for luxury electric appliances.

Flat irons, air heaters, and water heaters have been added to the electric appliances that may be produced for preferred orders (Army, Navy, Maritime Commission, and War Shipping Administration). Previously the permitted list for preferred orders included only: broilers, food-choppers, food mixers, food grinders, food servers, food slicers, fry kettles, griddles, hotplates, juicers, ovens, ranges, toasters, urns and vegetable peelers.

Production of the latter group may be resumed by a manufacturer for civilian use but only of the commercial and heavy duty types, and not in excess of 10 percent per quarter of the number of those units he had produced during 1940. Furthermore, he must not accumulate in his inventory more than 15 percent of his 1940 production of each item.

Use of copper is the limiting and restricting factor of repair parts production. Use of this critical metal is specifically restricted to certain parts of certain types of appliances. Generally the restrictions narrow such use to current conducting parts in appliances that are important in household routine, such as roasters and flat irons.

Replacement cord sets are prohibited except for electric flat irons. Such cords must conform to specifications contained in the order. Until the end of this year a manufacturer may produce up to 25 percent of his total 1940 production of flat iron cords. Beginning January 1st he may produce the 25 percent during each 6 months period.

Manufacturers and distributors are not permitted to transfer a repair or replacement part unless a similar used part is given in exchange; or unless they are assured that the similar used part is being held for them, to be forwarded later or turned into scrap, whichever they themselves request. Preferred orders are exempt from this provision.

Armored Cable Amendment In L-165 Revoked

The amendment to General Limitation Order L-165 issued on May 19, prohibiting the manufacture of armored cable as defined, was revoked on June 18 by the WPB as of the date of issue, and the original order reinstated without interruption.

Under the terms of the original order, made effective September 30, 1942, and now again in force, the manufacture of armored cable used as a conductor of electricity in interior wiring systems is prohibited. The amendment, just revoked, redefined armored cable to include not only "BX" but also many other types and as a result the prohibition against manufacture was extended to armored cable essential to many war products and war activities.

Circuit Breakers— L-300 Applies Control

Control on the manufacture of certain items of electric circuit breaker equipment was established by the WPB with the issuance of General Conservation Order L-300 on June 10th.

Circuit breakers of the "Multi-

Breaker" type are not included under the controls which are applied to small air circuit breakers of the two- and three-pole power "quick-make—quick-break" types; to breaker attachments, and to specifications for testing breakers.

The order provides also that on and after June 24, 1943, no purchase order for circuit breakers shall be accepted or delivered unless it bears a preference rating of AA-5 or higher.

Copper Mill Reports Change July 1st

A communication from H. O. King, director, Copper Division, War Production Board, to all wire mill warehouses, on June 17th, stated:

"Effective July 1st, 1943, the Controlled Materials Plan will be in full operation and, as a result, certain changes are necessary in the reporting forms to be filed by you. The following instructions relate to . . . . (Forms WPB-3009, PD-123, and PD-123D.)

"FORM PD-123—On or before July 10th, submit report on this form, covering June shipments made against orders bearing preference ratings only (AA-5 or higher). This will be the final report on PD-123.

"FORM PD-123D—This report is hereby discontinued since the same information will be submitted by you on Form WPB-3009.

"FORM WPB-3009—Copy of this form, with full instructions is attached. Each copper mill warehouse shall file its first report on this form on or before July 5th and monthly thereafter."

Electronic Equipment Order Revised—L-265

A change in that paragraph of the General Limitation Order covering electronic equipment which covers the exceptions to the order, was amended by the WPB on June 14th. Now, among the cases in which the provisions of L-265 do not apply is incorporated in this revised paragraph:

"(iv) To the transfer of any finished product of the following kinds, the manufacturer of which was completed on or before the 24th day of April, 1943: automobile radio receiving sets designed for the reception of standard broadcasts; automatic phonographs as defined in Limitation Order L-21."

Excess Materials Sales—Amendment to PR-13

Priorities Regulation 13, which is designed to provide uniform rules governing special sales of idle or excess industrial materials by persons who are not regularly engaged in the business of selling such materials, was amended on June 10.

Paragraph (c) of the amended regulation provides for the following special sales:

"To enable the War Production Board to keep its inventory records current and make its listings of excess inventories more useful to industry, a special sale of any iron or steel which has been reported as idle or excess inventory to the War Production Board, care of Steel Recovery Corporation, Pittsburgh, Pa., may be made only if the seller receives specific written authorization to make the sale to a specified purchaser. An application for such authorization may be made by the seller, or by the prospective buyer on his behalf, to the regional office of the War Production Board for the region in which the item is located, or to the War Production Board, in care of the Steel Recovery Corporation. The application shall specify the names of the buyer and the seller, the lot number on the seller's recovery program report form, a description of the item involved, including weight, size, analysis, finish and form and any preference rating or CMP allotment number and symbol which may be applied to the purchase. Application may be made by letter, telegram or telephone.

"(2) A special sale of any new or used restricted industrial materials (other than such steel and iron as is subject to subparagraph 1) may be made if the sale falls within one of the following categories and no such special sale of any restricted industrial material may be made unless it falls within one of the following categories:

"(i) A sale to any of the following governmental agencies or to any person buying as an agent for any such agency: Commodity Credit Corporation, Defense Supplies Corporation, Metals Reserve Company, Rubber Reserve Company, and any other corporation (other than Defense Plant Corporation) organized under section 5 (d) of the Reconstruction Finance Corporation act as amended; . . ."

"(iv) A sale of any 'controlled material' as defined in CMP Regulation 1, to fill an order with a CMP allotment number or symbol and bearing either the following certification or any standard optional certification prescribed in CMP Regulation 7:

"The undersigned certifies that he is entitled under CMP regulations to place an authorized controlled material order for the above material.

(signed)"

Farmers Can Not Use AA-5—Must use PR-19 for MRO

By the June 11th issuance of Direction 5, CMP Reg. 5, farmers are prohibited from using the AA-5 rating assigned to unclassified activities. They are directed to use Priorities Regulation No. 19 to obtain their maintenance, repair and operating supplies.

Housing Agency Can Amend WPB Materials Lists

The War Production Board delegated to the National Housing Agency on June 18th, authority to amend, within limitations, WPB approvals of materials and products to be used in war housing projects. The action was contained in WPB Directive No. 24.

Concurrence of WPB in amending approvals is not necessary if the materials and products appear on:

1. The current list of permitted substitutions and additional inventory items issued by WPB, or

2. The War Housing Critical list under the same item number as an approved item on the list of materials, are to be used in place of materials or products so approved and have not been specifically prohibited for the project by the War Production Board.

The Directive also formalizes the

WPB 547

(Superseding PD1X)

Plus Prompt Deliveries

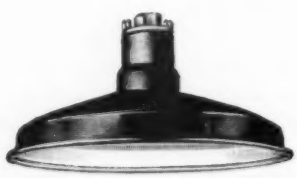
In the June issue we discussed PD1X and suggested that, because dollar volume is the basis of these regulations, it was smart to make your sales cover a wider line of items to serve a greater number of customers, and care for more uses . . . more merchandise per dollar to fill essential civilian, industrial or farm needs.

However getting PD1X application clearance of items does not help you one iota *unless you can get prompt delivery* of the items required. Otherwise your work and time are both wasted.

You can depend on prompt shipments from Steber, and you get more merchandise per dollar including Reflectors, Coverlites, Utilites, Yardlights and Floodlights. You can cover more uses—and get the full advantages of your efforts because deliveries are made in a few days,—in fact, in many cases shipments are on the way in a few hours after receipt of orders.

Steber is organized to help you *NOW*,—with a fast-stepping production organization, up-to-the-minute stock control, and ample stock of many widely applied standard products.

"Coverlites" with attached clamps, for fast, simple installation. On or off in a jiffy. Four sizes, both in shallow and standard shapes. Ultranamel finish or porcelain enameled.



Easily detachable socket type Reflectors feature a special "Service Head." May be quickly removed without disturbing the socket. Four sizes in shallow, standard and angle shapes. Ultranamel finish or porcelain enameled.

A wide variety of better, economically priced floodlights to meet all floodlighting requirements. Item illustrated lists at $5.75, complete with lens. Steber production methods make this low price possible.

All Steber Yardlights are complete with wall flange ½" pipe reflector and porcelain socket, and lag screws. Wired ready for installation. The goose neck type shown above lists at $1.75.

New one-piece strong Shadeholder for 2¼" Reflectors. Easy to put on,—easy to take off. Neat appearance and ingenious design have much to do with its ready acceptance by the trade.

STEBER MANUFACTURING CO., 2451 No. Sacramento Ave., Chicago, Ill.

STEBER

LIGHTING EQUIPMENT

existing authority of the National Housing Agency as a claimant agent, to make allotments of controlled materials and to issue preference ratings for materials and products approved by WPB for use in each project.

PD-1X Becomes WPB-547—New Forms Available

Revised and redesigned, the old order PD-1X has been renamed and issued in a new and compact form. As previewed in WHOLESALER'S SALESMAN'S news story of the NEWA Buffalo War Conference in the June issue, the new inventory form is now in a more practical form, designed to be more simple in its use and to be in a shape that will fit the usual file.

Copies of WPB-547 can be secured from local WPB offices. This new style sheet may be used immediately.

Radio Tube Order L-76 Amended—Get AA-1 Rating

Radio tubes, the manufacture of which have been restricted by Limitation Order L-76, will be produced to fill orders carrying a minimum rating of AA-1 instead of A-1-j, according to the May 28th amendment to the order by WPB. Most of the tubes included in the amendment are obsolete types.

The amendment also made a change in the definition of "preferred orders," enumerating the classes of orders that may be filled. As amended the order defines "preferred order" as follows:

" 'Preferred order' means any specific order, contract or subcontract, for the manufacture of tubes for the Army or Navy of the United States, the United States Maritime Commission, the War Shipping Administration, the Panama Canal, the Coast and Geodetic Survey, the Coast Guard, the Civil Aeronautics Authority, the National Advisory Committee for Aeronautics, the Office of Scientific Research and Development, any foreign country pursuant to the Act of March 11, 1941, entitled 'An Act to promote the Defense of the United States' (Lend-Lease), or any order bearing a preference rating of AA-1."

News

(Continued from page 31)

ge problems in the West Coast area was an address by M. G. Sues, Los Angeles manager of the Leo J. Meyburg Co. He discussed problems incident to the labor shortage, including the application of the 48-hour week which is now effective in West Coast metropolitan areas. From Major W. L. Burroughs, director of public relations, Ordnance Division, U. S. Army, and Captain D. E. Ring, regional labor officer, Ninth Service Command, the NEWA members received authoritative information on relationships with Selective Service regarding deferments and methods being used to analyze jobs and train employees for greater productivity.

How an investment of almost $2,000,000,000 in new industrial facilities occasioned by the war will affect postwar manufacturing on the Pacific Coast was discussed by George C. Tenney, editor, *Electrical West*. New producers of electrical apparatus, supplies and appliances will develop from present makers of war goods, he predicted, and the wholesaler must take cognizance of the needs of these new people for distribution. What forms of advertising can be used at present to substitute for salesmen and to maintain contacts with old customers, were brought out in a panel discussion led by W. G. Figroid, manager, Gilson Electrical Supply Co., Oakland, who

***NEW PRESIDENT** at Ilsco Copper Tube and Products Co. Andrew H. Steuber, known usually as "Andy", was elected unanimously to that post recently. He has been with Ilsco for fifteen years, being active in most departments of the plant. He will continue as sales manager.*

***WHOLESALE ONLY**, is the policy here at the Idaho Electric Supply Company's good-looking downtown store in Boise, Idaho. J. W. Thomas, president of the company is justifiably proud of the display*

***REDUCING TROUBLE CALLS** by giving customers instructions on changing fuses has reduced service calls by 25 percent in Pittsburgh, Pa. The Duquesne Light Company has presented this instruction to more than 110,000 of its 325,000 residential customers. A typical group of these customers is seen in top photo listening to instruction from A. J. Smalley. Below, Mrs. Margarite Daley, home service representative, is using the special demonstrating chart.*

IN BINDING

Talk about "Killing Two Birds with One Stone!"

Two SUPPLY RESTRICTION PROBLEMS* Solved At ONE Source!

PROMPT DELIVERIES!

* (1) Restricted production (shortage) of Dry Cells . . .
Use IDEAL Rechargeable Storage Batteries

* (2) Restriction of Solder, Copper or Copper Alloys for Making Electric Wire Connectors. . . .
. . . Use IDEAL "Wire-Nuts"
The Solderless, Tapeless Wire Connectors

IDEAL
Rechargeable Storage Batteries for Flashlights

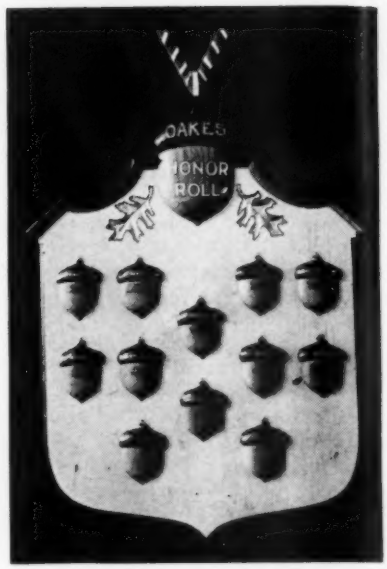
Can be recharged over and over again, like the storage battery in your automobile. Simple charger plugs into any light socket. One IDEAL Rechargeable Storage Battery can eliminate the purchase of 400 or more dry cells. (Conserves about 68 lbs. of carbon, zinc and other vital materials.) Provides bright, steady light at all times. User always has "fresh" battery, simply by recharging. IDEAL Flashlight Storage Battery same size as two 1¼" D dry cells; fits standard flashlight case.

IDEAL
"Wire-Nuts"
Solderless, Tapeless — for wire connections

An alternate and improvement for solder-and-tape electric wire connections. For use on production lines, and for plant electrical wiring. "Wire-Nuts" meet all government requirements. SAVE CRITICAL MATERIALS. Use No Lead, Copper or Copper Alloys — no Tin or Rubber as required for solder-and-tape joints. Fully Approved; Listed by Underwriters' Laboratories, Inc. All sizes for connecting wire ends from two No. 18 to three No. 10. Can be re-used when changes are made in wiring.

PROMPT DELIVERIES
Full Information on sizes, prices and applications, on telegram or letter request.
SOLD THROUGH JOBBERS

IDEAL Sycamore
★ IDEAL COMMUTATOR DRESSER CO ★
1047 Park Ave., Sycamore, Ill. *Sales Offices in All Principal Cities*



***HONOR ROLL** for employees of the Oakes Electrical Supply Co., Holyoke, Mass., has been made up in this unique and attractive form, carrying out the relation of acorns and "Oakes."*

told how his organization uses direct mail effectively. The discussion led to a resolution endorsing the national advertising plan undertaken by NEWA and asking for its extension to other fields.

Post-war markets anticipated by the power companies and their effect on the wholesaler's business were described by three utility executives. C. E. Houston, vice-president and general manager, Southern California Edison Co., reported that upwards of 300,000 kw. of present war load will drop off with the coming of victory and that plans are being made to market this energy to residential and commercial customers through the promotion of greater use of electrical appliances. He announced that plans are proceeding with a "Light up for Victory" program in which restoration of normal commercial, residential and street lighting will be tied in with civic victory celebrations. The program has already spread up and down the Pacific Coast.

Interpretations and changes in CMP order No. 5, in L-63 and in PD-1X, similar to those presented at the recent national NEWA war conference were discussed by C. C. Whittington, production analyst, WPB, Los Angeles. Leonard E. Read, general manager, Los Angeles, Chamber of Commerce, presented a stirring defense of the competitive enterprise economy.

Members of the Pacific Division elected Harry E. Perl, president of the State Electric Supply Co., Oakland, to be chairman of the division. He succeeds D. A. Smith, of the Graham-Reynolds Electric Co., Los Angeles.

Lighting Institute Gets WPB Praise

The work of the Chicago Lighting Institute in acquainting men in the war industries with the benefits of good lighting through numerous lighting conferences and lecture demonstrations, has received the praise of the Deputy Regional Director of the War Production Board, in a letter made public recently by Carl W. Zersen, Manager of the Institute.

In his letter, Mr. L. A. Miller, the deputy director who is with the Production Services and Smaller War Plants Division of WPB, states ". . . I have had numerous occasions to observe the kind of work which the officials and staff of the Chicago Lighting Institute are performing in behalf of the war effort. We appreciate very much indeed, the series of lecture demonstrations on war-time lighting which your lighting specialists presented in cooperation with the War Production Board in Chicago to representatives of war industries last fall and this spring.

"I understand that hundreds of men from industries attended these meetings, and I am certain that a great deal of good must have come from these lecture demonstrations. . . . I hope you will continue to call on me and make arrangements for more lighting demonstrations to men in Chicago industries in order to help us speed up production. . . ."

NEW JOB as superintendent of the warehouse at WESCO, Seattle, keeps Fred L. White in the wholesaling business after his old position as salesman for the company in the Okanagon and Big Bend territory was discontinued for the duration.

KLEIN TOOLS
EST. 1857
He needs our help
OUT where the fighting is thickest—where communication lines must be strung—in a hurry—he needs pliers and climbers, safety straps and belts, grips and wrenches to get his job done. Taking care of equipment is a contribution toward speeding the day of victory.
To assist in making equipment last longer—give better service—we have prepared a booklet on the care of tools and suggestions for their safe use. It is filled with information on the kind of equipment that linemen and electricians use daily. A copy will be sent to anyone interested without charge. Mail the coupon below.
LONG LIFE TO TOOLS
KLEIN
This Booklet on the care of Tools will be sent to anyone interested.
Mathias KLEIN & Sons
Established 1857
Chicago, Ill., U.S.A.
3200 BELMONT AVENUE, CHICAGO
Mathias Klein & Sons
3200 Belmont Avenue, Chicago, Illinois
Gentlemen:
Please send me a copy of the booklet "Long Life to Tools."
Name.....
Address.....
Town.....State.....

Extensive Activities Announced at Sylvania

As the first step toward preparation for increased world-wide operation Sylvania Electric Products, Inc., announces the formation of an international division with Walter Coogan as director. As part of its expanded activities, the new division will include the operations formerly carried on by the Foreign Sales Department.

With a substantial increase in personnel, a much wider scope in operations is planned. To facilitate the movement of Sylvania Products to all parts of the world, the international division will provide engineering counsel, prompt delivery, more frequent and personal contact with the market in each country.

Purchases New Plant Facilities

The manufacturing facilities, including plant and machinery, formerly operated by Electro Metals, Inc., Cleveland, Ohio, has been purchased by Sylvania, and will continue in operation producing lead-in wires for use in radio tubes, fluorescent and incandescent lamps. The present staff of employees will be retained.

Sylvania has announced that the regular customers of Electro Metals will continue to be supplied.

A white star was added to the "E" flag at the Emporium plants of Sylvania Electric Products, Inc., in recognition of continued excellence in production of precision electronic material for the armed forces.

Guest of honor at the awarding of the star was an 18-year old Marine Corps hero, Corporal Paul Beiswenger, who spoke to the Sylvania employees at the outdoor ceremony. Corporal Beiswenger fought through the battles of Tanaru River and Bloody Knoll on Guadalcanal. He told of his experiences in being forced down in a plane on the Pacific 300 miles from the nearest land.

L. E. Latham On Wholesale Committee

L. E. Latham, president of E. B. Latham and Co., New York electrical wholesale house, has been appointed to represent the electrical wholesaling industry on the newly formed Wholesale Trade Industry Advisory Committee of the War Production Board.

Along with Mr. Latham on the committee, which has the purpose of working with the WPB on problems involving the entire wholesaling industry, are leaders from every one of the major branches of wholesaling—drugs, food, hardware, tobacco, etc.

ACTIVE in wholesaling affairs in Spokane, Clarence A Tubbs, is also sales manager of the Columbia Electrical and Manufacturing Co., which has war contracts for its line of electrical supplies. Head of the company is Eric A. Johnston, president of the U. S. Chamber of Commerce.

Copperweld Promotes C. J. Milroth

C. J. Milroth has succeeded George Sowash as assistant advertising manager of the Copperweld Steel Co., Glassport, Pa. Mr. Sowash has been granted a leave of absence to enter the army. Mr. Milroth spent approximately two years in the mill production office prior to entering the advertising department.

Conway Made President

James M. Conway, formerly vice-president in charge of purchases for the Bishop Gutta Percha Co., manufacturers of insulated wire and cable, has been elected president of the company. He succeeds the late Henry D. Reed.

Mr. Conway has been with the company for the past 25 years.

Correction

Through an error, the May issue of WHOLESALER'S SALESMAN indexed the advertisement of the Pierce Renewable Fuse Co., Inc., as being that of Pierce Laboratories, Inc. The full-page advertisement, which appeared on page 99 of that month's issue should have been listed as that of the Pierce Renewable Fuse Co., Inc., whose home office is in Buffalo, N. Y.

"Hot Pilot"

Enjoying a well-earned rest, smoke, and breath of cool air, this Navy pilot has just returned from an attack on a Jap airport. This morning he'd have laughed if you had called him a "hot pilot." But right now he'd agree enthusiastically, for flying in the humid Southwest Pacific is sweaty, dirty, *hot* work. And he might be called back to it on a moment's notice.

Easing his physical and nervous strain is just one of the needs that keep our entire wartime output of R & M Fans reserved for ventilating jobs essential to the war program. These famous breeze-makers are also helping Army and Navy doctors do their best work by keeping the air fresh and invigorating, and are helping wounded fighting men recover faster by making their convalescence more comfortable on shipboard and in hospitals.

Now you know why there'll be no R & M Fans for *civilian* use, for the duration. And we're sure you're *for* it, one hundred per cent!

★ ★ ★

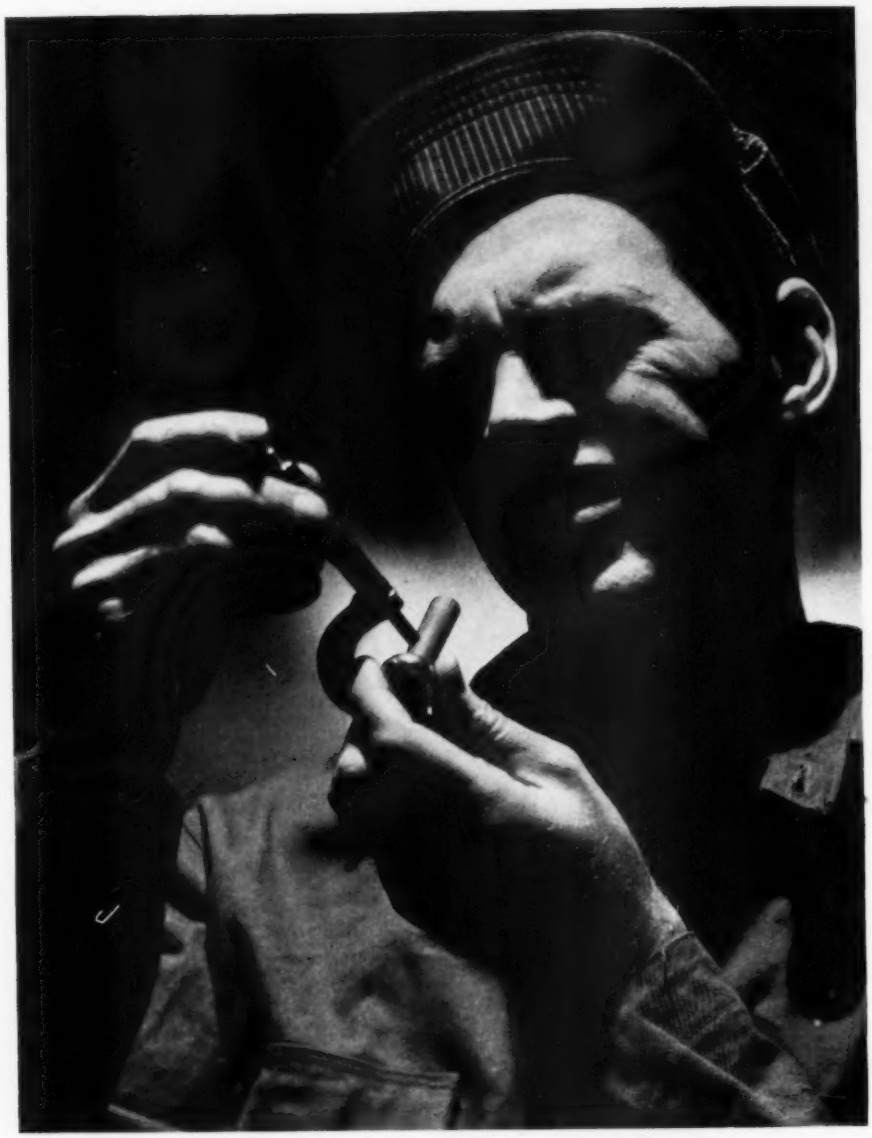
If you need repair parts for R & M Fans—or want complete repair jobs done *for* you—get in touch with us, or the nearest R & M branch office listed below.

ROBBINS & MYERS INC.

SPRINGFIELD, OHIO • Branch Offices in:

NEW YORK, 200 Varick St. CHICAGO, 2400 W. Madison St. PHILADELPHIA, 401 N. Broad St.
KANSAS CITY, B. M. A. Bldg., Room 325, 215 Pershing Rd. SAN FRANCISCO, 237 Rialto Building
NEW ORLEANS, 116 Arlington Dr. DALLAS, 1100 Cadiz St.
THE ROBBINS & MYERS CO. OF CANADA, LTD., Brantford, Ont.

This advertisement does not imply endorsement of our products by the armed forces.



Here is no place for

CAMOUFLAGE!

Camouflage should fool the enemy —not confuse the American worker.

Wherever war workers use their eyes, poor illumination is a form of camouflage, obscuring details—increasing the possibility of mistakes —slowing up production. That's why so many leading concerns have adopted good lighting—*Goodrich lighting*—as a company policy.

Goodrich Industrial Fixtures are sold only through electrical wholesalers.

GOODRICH RLM

GOODRICH ELECTRIC COMPANY

OFFICES IN ALL PRINCIPAL CITIES

GENERAL OFFICES AND FACTORY: 4610 BELLE PLAINE AVENUE, CHICAGO, ILL.

NEMA Group Studies Lighting Material Uses

Each individual lighting source has distinctive characteristics which can be used in the conservation of critical materials, according to the findings of the General Technical Committee of the Industrial and Commercial Lighting Equipment Section of the National Association of Electrical Manufacturers.

The amount of material conserved depends on the structure of the light source, its use and occupancy, as well as upon the ingenuity of the lighting engineer, the report stated. The committee has made a study of the amount of critical materials used in lighting systems developed for and employed in different buildings typical of the war building program.

The general technical committee of the section is made up of the following: A. F. Wakefield of the Wakefield Brass Co., Chairman; H. A. Barnes, Wheeler Reflector Co., W. P. Lowell, Jr., Sylvania Electric Products, Inc., G. T. Morrow, Curtis Lighting, Inc., and S. R. Naysmith, The Miller Co.

Blackout Plant Opened

A new four-acre blackout plant on the east coast has been opened by the radio division of Westinghouse. According to the announcement from Walter Evans, vice-president of the division, the new plant will be used to speed construction of special type radio equipment.

Designed to conserve critical materials, the new plant used 1,554,000 board feet of lumber, at an estimated saving of 1,920 tons of steel. It required the use of more than one acre of pressed wood panels in place of window glass. The plant will be operated for the Defense Plant Corporation by Westinghouse.

Brumbaum Returns To Sales Post

H. R. Brumbaum, sales executive of Landers, Frary and Clark, New Britain, Conn., has resumed his connection with that organization after a year's leave of absence, during which time he has been with the Office of Price Administration in Washington, D. C.

A. E. Hanbury has also returned to the company for the duration of the war in the capacity of general superintendent, assisting H. C. Edgerton. Mr. Hanbury used to be superintendent of the washing machine division company before leaving to operate his own real estate business.

Eric Hall to Handle Thermacote in East

Eric Hall has been made east coast manager of the Thermacote Company, Los Angeles, and will soon open a dipping plant to service customers in the east, according to a recent report.

Mr. Hall has been with the Westinghouse Electric Supply Co. for the past 12 years, the last 8 of these as district merchandise manager at Seattle.

The Thermacote process is a method of coating glass with a transparent plastic coating which makes the glass

Eric Hall

more durable under adverse conditions. It has been used considerably recently in coating glass of welders helmets as well as for protecting electric lamps that must be used in severe weather. The coating of plastic on the welders helmets prevents the sticking of molten metal to the glass, lengthening its life and at the same time preventing eyestrain.

Sees Big Future In Television

Television should emerge from the war strongly qualified to become a vast post-war industry giving employment to many people in various fields associated with the new art, according to Ralph R. Beal, research director of RCA Laboratories, in a recent discussion of radio and electronic research before members of the New York Stock Exchange.

Predicting tremendous expansion in other fields as well as in radio, Mr. Beal said that the potentialities stimulate the imagination of research scientists to new and unexpected horizons in the fields of physics, chemistry, metallurgy, biology, and in many industries.

Latrobe PRODUCTS

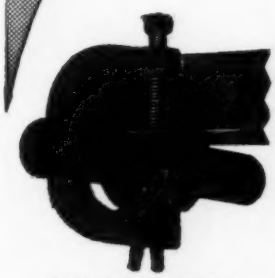
★ FLOOR BOXES ★ WIRING SPECIALTIES ★

HIGH QUALITY

EASILY INSTALLED

Stock — Sell Latrobe Products For Best Results

Results are what count, and Latrobe Products can be depended upon to deliver the service. Moreover, they are easily and quickly installed. First choice for war emergency and civilian jobs.



#470 "BULL DOG" PIPE or CONDUIT HANGER

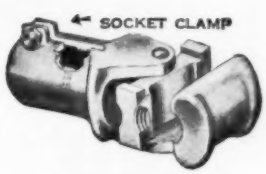
High quality yet economical. High grade malleable iron. Sturdy and strong. For hanging ½", ¾" or 1" pipe to ⅜" steel beams. As a ground clamp will take copper wire No. 8 to 4.

284 NOZZLE with #200 COVER PLATE

Double Duplex Receptacle with ½ inch brass pipe extension. Also furnished with ¾ inch pipe extension. Highly regarded.

"BULL DOG" INSULATOR SUPPORT

Malleable iron of high tensile strength for fastening porcelain and glass insulators to exposed steel framework.

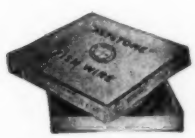


#625 LATROBE CONDUIT BENDER

Made of "TUF-A-LOY" steel. Reversible jaw. Internally threaded socket; guaranteed against breakage. Will not slip or kink conduit.

#150 BOX with #270 NOZZLE

Latrobe adjustable watertight floor box—Underwriters' approved—suitable for installation in concrete floor—Tops easily adjusted.



"KEYSTONE FISH WIRE

High grade flat steel wire, tempered. Ten sizes. 100 ft., 150, and 200 ft. coils. Special lengths if required.

DURABLE

ECONOMICAL

FULLMAN MANUFACTURING CO. QUALITY AT LATROBE PA. SUPREMACY

FULLMAN MANUFACTURING CO.

LATROBE . . . PENNSYLVANIA

IT'S AN ELECTRICAL WAR . . . AND WE'RE IN IT TO WIN!

We quote from an editorial in "Electrical Manufacturing":

"Without electrical ways, there could be no sufficiently adequate production of mechanized combat and behind-the-lines equipment. Without electrical ways, planes, tanks, surface and sub-surface vessels, communications and transportation literally could not be".

Here at ROYAL, we're in this electrical war "up to our necks". So there's naturally less of our production available for your shelves for civilian purposes.

However, if you have high priority orders from plants that you supply, get in touch with us. We'll do our level best to help you on them.

ROYAL Wire can "take it"—at home and at war

ROYAL ELECTRIC COMPANY, INC.

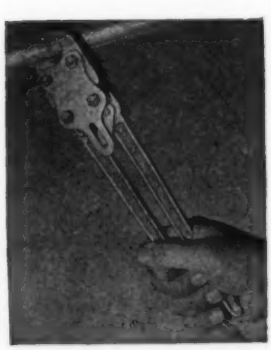
95 GRAND AVENUE • PAWTUCKET, R. I.

You Conserve Critical Steel When You Use

BRIEGEL FITTINGS

In every Briegel fitting there's a saving of 25% on steel over any other fittings on the market. For use on interior jobs they're approved. (And incidentally, there's a 25% saving of TIME, too when you use B-M fittings!)

(Regular distributor listing)



DISTRIBUTED BY

The M. B. Austin Co. Chicago, Ill.

Clayton Mark & Co. Evanston, Ill.

Clifton Conduit Co. Jersey City, N. J.

General Electric Co. Bridgeport, Conn.

The Steelduct Co. Youngstown, Ohio

Enameled Metals Pittsburgh, Pa.

National Enameling & Mfg. Co. Pittsburgh, Pa.

Triangle Conduit & Cable Co. New Brunswick, N. J.

BRIEGEL METHOD TOOL CO., Galva, Ill.

Outline Post-war Plans for Radio

Post-war engineering planning for the radio and electronic industry and services has been offered in a proposal by the board of directors of the Institute of Radio Engineers.

This proposal aims to put into force suggestions made to the institute by James L. Fly, chairman, and Commander T. A. M. Craven, both of the Federal Communications Commission, by creating a radio technical planning association to be sponsored by interested engineering and scientific societies, industrial and broadcasting associations, and the government.

The objectives are to study all technical problems of such radio branches as broadcasting, television, facsimile and general communication, and to recommend methods for introducing new radio developments.

OBITUARIES

H. B. Crouse

Huntington B. Crouse, president of the Crouse-Hinds Company, Syracuse, N. Y., died from a heart ailment on June 11th at the Syracuse Memorial Hospital. He was 70 years old.

Mr. Crouse was a pioneer in the manufacture of electrical equipment, and with his associates had built up one of the largest manufacturing concerns of its kind in the industry.

In 1897, Mr. Crouse, with J. L. Hinds, established the company for the manufacture of electric appliances and equipment. During its first year of business it received a large order for trolley-car headlights. Later it became one of the pioneer concerns handling the manufacture of automatic stop-and-go traffic lights.

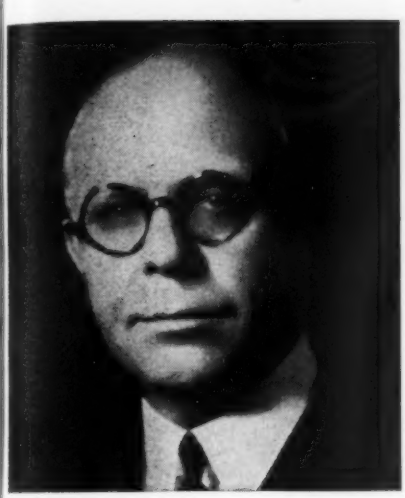
In 1940, Mr. Crouse was the recipient of the James H. McGraw Medal for Manufacturers in recognition of his "contribution to the advancement of the manufacturing branch of the electrical industry."

He was active not only within the electrical industry, as shown by his being president of the National Electrical Manufacturers Association, but also in national and local civic enterprises.

Mr. Crouse was a former president of the Syracuse Community chest, was an officer in many local charitable organizations, the Chamber of Commerce, and the First Trust and Deposit Company.

In February of this year, he was named to an advisory committee of the War Department on procurement methods and policy.

Mr. Crouse was born in Fayetteville, N. Y. He attended Phillips Andover



H. B. Crouse

Academy before entering business in 1891 as an employee of a Syracuse jewelry firm. From 1893 to 1897 he operated a flour mill and foundry at Fayetteville.

He leaves a widow, the former Miss Florence Bailey, and two children, Mrs. Lawrence L. Witherill and Huntington B. Crouse, Jr.

O. A. Frederickson

Otto A. Frederickson, development engineer for the National Electric Products Corp., Pittsburgh, Pa., and well known in the electrical manufacturing field, died on June 5 in St. Mary's Hospital, Orange, N. J., after a short illness. He was 50 years of age.

A native of Plainfield, N. J., Mr. Frederickson obtained his early experience as a draftsman for E. W. Bliss Co. While associated with that organization he helped design the dies for producing

O. A. Frederickson

"Wiremold," which was then manufactured by the American Conduit Co. He was retained by the American Conduit Co. and made superintendent of the plant at New Kensington, Pa.

In 1920, when the Wiremold Co. was organized and the plant for the manufac-

RE-LIGHTING

the new manpower / production *requirement*

HERE'S ONE ANSWER
to this problem...

This new folder tells the whole story. Send for it!

Because most plants operating today were designed for peacetime, *daylight* working schedules, *their lighting equipment is inadequate for night work!*

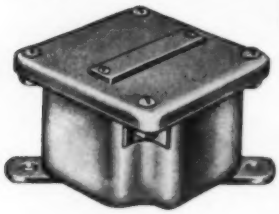
The folder illustrated gives one answer to industry's problem of *re-lighting*. Silv-A-King's new fluorescent reflectors of non-critical, metal-saving Silv-A-Tex are durable, efficient, inexpensive, and available for prompt delivery. For complete descriptions and specifications of Silv-A-King "Victory" units, write for a copy of "Catalog 43-V" today!

SILV-A-KING
MAKES *Light* WORK FOR YOU

BRIGHT LIGHT REFLECTOR COMPANY, INC.
1031 Metropolitan Avenue, Brooklyn, N. Y.

BROILKING AFTER THE WAR, MORE THAN EVER *America's Finest Electric Table Broiler*
INTERNATIONAL APPLIANCE CORPORATION
1027 Metropolitan Avenue, Brooklyn, N. Y.

Spero now offers prompt delivery on Navy 9-S Fittings and Fixtures



The following numbers in the 9-S series of fittings in addition to the basic 3", 4" and 5" boxes, built according to Navy drawings, are now in production, and prompt delivery can be assured. New numbers, not listed here are being added to the line, and information on these will soon be available.

9-S DEVICES AND SWITCHES

9-S NUMBER TYPE	9-S NUMBER TYPE	9-S NUMBER TYPE	9-S NUMBER TYPE
4260-L ES(W.T.)	4718-L CCS(W.T.)	4721-L MMS(W.T.)	4234-L G-S(W.T.)
4262-L FS(N.W.T.)	4718-L DDS(N.W.T.)	4816-L FFF(W.T.)	4496-L C-S(W.T.)
4477-L VIII(W.T.)	4719-L FFS(W.T.)	4816-L FFF-1(W.T.)	4777-L V-IS(W.T.)
4264-L FS(W.T.)	4719-L GGS(N.W.T.)	4873-L GG(W.T.)	4923-L IK-S(W.T.)
4563-L M-N(N.W.T.)	4720-L TTS(W.T.)	4914-L M-IS(W.T.)	5174-L V-S(W.T.)

9-S FIXTURES

4535-L J-S(White,W.T.)	4537-L L-S(White,W.T.)	5122-L IV-ES(White,W.T.)	5173-L JRS-S(Red,W.T.)
4535-L JR-S(Red,W.T.)	4537-L LR-S(Red,W.T.)	5163-L LL-S(White,N.W.T.)	5173-L JGS(White,W.T.)
4535-L JG-S(White,W.T.)	4537-L LGS-S(White,W.T.)	5163-L LLR-S(Red,N.W.T.)	5173-L JRGS(Red,W.T.)
4535-L JRG-S(Red,W.T.)	4537-L LRGS-S(Red,W.T.)	5163-L LLGS-S(White,N.W.T.)	5186-L LS-S(White,W.T.)
4536-L J-S(White,W.T.)	5121-L III-ES(White,W.T.)	5163-L LLRGS-S(Red,N.W.T.)	5186-L LRS-S(Red,W.T.)
4536-L JR-S(Red,W.T.)	5121-L III-ESR(Red,W.T.)	5173-L JS-S(White,W.T.)	5186-L LGS-S(White,W.T.)
			5186-L LRGS-S(Red,W.T.)

N. Y. Office: 33 West 42nd St., N. Y. C.

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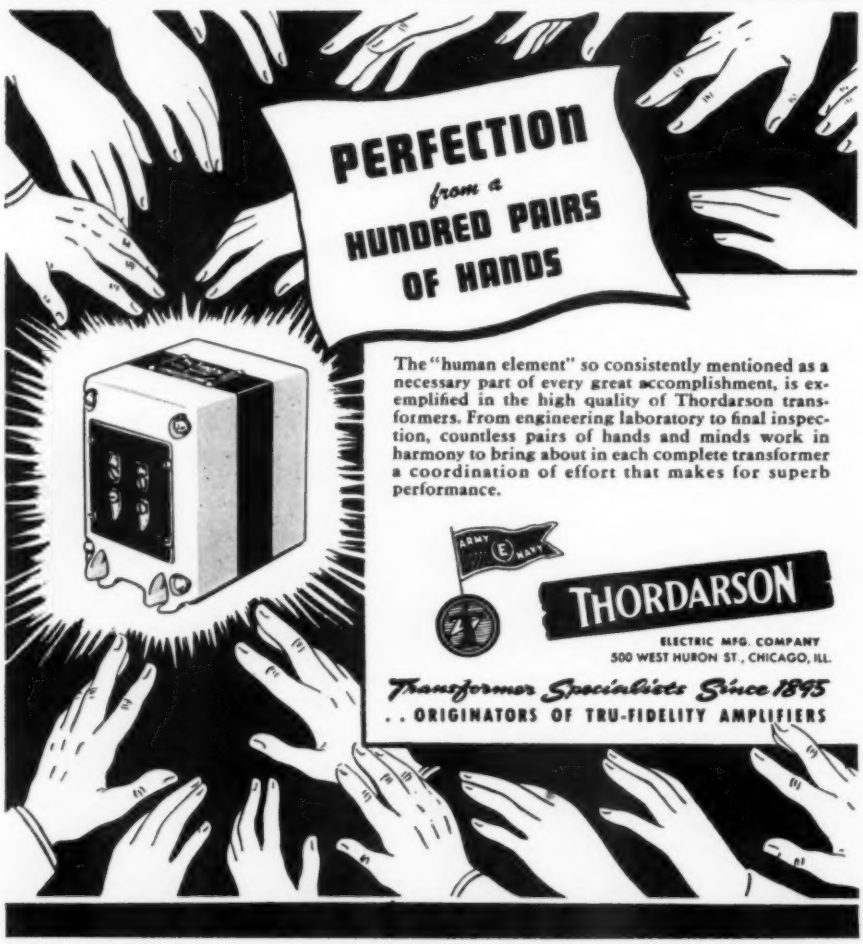
PERFECTION
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HUNDRED PAIRS
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The "human element" so consistently mentioned as a necessary part of every great accomplishment, is exemplified in the high quality of Thordarson transformers. From engineering laboratory to final inspection, countless pairs of hands and minds work in harmony to bring about in each complete transformer a coordination of effort that makes for superb performance.
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ELECTRIC MFG. COMPANY
500 WEST HURON ST., CHICAGO, ILL.
Transformer Specialists Since 1895
. . ORIGINATORS OF TRU-FIDELITY AMPLIFIERS

ture of the metal molding was moved to Hartford, Conn., Mr. Frederickson was made superintendent of the Hartford plant. It was in 1927 that he joined National Electric Products Corp. at Pittsburgh, becoming the development engineer for the company.

He had to his credit many valuable developments and had taken out numerous patents. Two of his best-known developments are ABC armored cable used for interior wiring of buildings and a flame-retarding, moisture-resisting finish for treating the over-all fibrous covering on electrical wires and cables. This product was known and sold under the trade name "Safecote Electrical Conductors." Mr. Frederickson worked closely with members of the National Electrical Contractors Association and the International Association of Electrical Inspectors in developing safer and more practical materials for electrical installation.

Association News

BALTIMORE—The Electrical Manufacturers Representatives Association, Inc. of this city held its recent luncheon meeting at the Engineers Club and fully discussed the House Bill 1900.

CHICAGO—At the war-time lighting conferences sponsored by the Chicago Lighting Institute and the Chicago Section—War Production Board, the total record of attendance for the three meetings was 407. A summary of the meetings follows: On May 19, Eugene D'Olive of Commonwealth Edison Co., spoke on the subject "Light for Sheet Metal," having an attendance of 128; on May 26, Ralph Lusk of the same company, discussed "Light for Welding," having an attedance of 123; on June 9, Glenn G. Boyd, A. W. Larson, R. E. Lagerstrom, E. E. Elliott talked on the subject of "Light for Machine Tools," having an attendance of 156.

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Extensively used by Army, Navy and Air Corps, HEXACON electric soldering irons include screw tip irons, plug tip irons, irons with replaceable elements, and irons with hermetically-sealed elements; handles are fixed or adjustable.

WRITE FOR LITERATURE

Descriptive bulletins, describing the complete line of HEXACON electric soldering irons, will be sent on request.

HEXACON ELECTRIC COMPANY

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KANSAS CITY—At a recent meeting of the Electric Association of Kansas City, Myron Russ of Cessna Aircraft Co., Wichita, Kansas, spoke on the subject of Aviation and used illustrations to dramatize some of the possibilities of aircraft for the average civilian's use in peace time.

The last luncheon meeting for the summer was held at the Hotel President on June 15. Judge Cave, for several years judge of the Kansas City Court of Appeals, spoke on the subject "What of the Future? What Does It Have in Store for Us?"

MILWAUKEE—The Wisconsin Radio, Refrigeration and Appliance Association, with headquarters in this city has issued another Exchange Bulletin listing surplus items of merchandise for sale and other items of merchandise wanted. The Association believes that this will probably be the last listing due to the fact that the merchandise supply is rapidly dwindling.

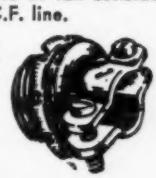
Henry M. Steussy, District Salvage Chief of the Milwaukee War Production Board office, asked the Association to remind all appliance dealers that they are required under order 265, to turn in every sixty days the parts which they are compelled to obtain from every customer who buys a new one.

NEW ORLEANS—From the Electrical Association of New Orleans comes word that instead of its members holding the conventional type of meeting in June, it was decided to take an inspection trip on the river, including a visit to the big shipyards and new installations on the industrial canal. The trip took about two hours and a half and Messrs. Osterberger, Salvant, and Secretary Guidroz supplied box lunches for all the members who were on the trip.

ACF *"A Quality Line at Competitive Prices"*

A full line of quality conduit fittings and connectors. To assure your contractor and industrial customers of full satisfaction, sell them the A.C.F. line.

Illustrated is a ⅜" Non - Metallic Sheathed Cable Connector.



Write for descriptive bulletins and prices.

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589 Atlantic Avenue • Boston, Mass.

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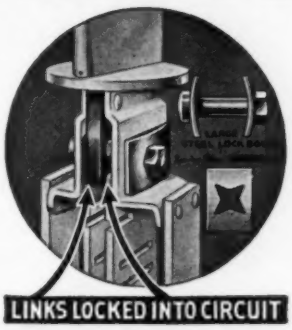

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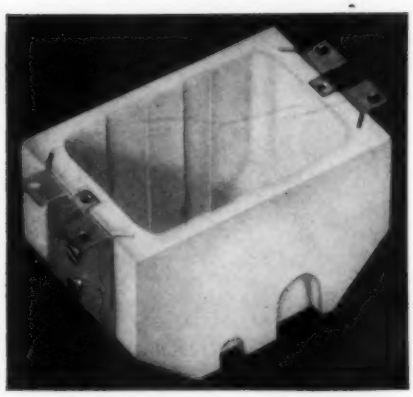

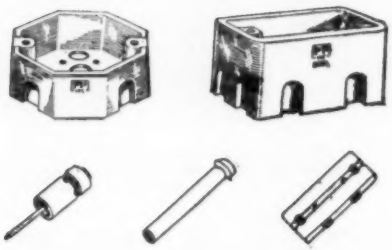

Porcelain Meets WAR HOUSING Requirements for Non-Critical Wiring Materials

The War Housing Critical List, the Critical Materials Design Guide, the List of Prohibited Items for Construction Work, War Department Specifications—all require the use of non-metallic, or PORCELAIN Outlet Boxes and non-metallic type, or Knob and Tube Wiring Construction.

You can speed installation of every wiring job by stocking Porcelain Products' *Porcelain* Outlet Boxes, Surfolets Knobs, Tubes, Cleats and other non-metallic wiring materials.

Write for your FREE copy of Installation Manual on Porcelain Protected Wiring Systems.

PORCELAIN PRODUCTS, INC.
FINDLAY, OHIO

CHICAGO—On June 3 the West Suburban Electric League of Chicago had as its speaker Carl W. Zersen, manager of the Chicago Lighting Institute, who spoke on the subject "Let There Be Light." Mr. Zersen was chairman of the Chicago Section of the Illuminating Engineers Society and is now a member of one of the national committees.

PATERSON—The Passaic County Electrical League of Paterson held its annual Ladies Night and Banquet at the Passaic City Club on June 24. Russell L. Durgin reviewed for the group some of his experiences during twenty-three years residence in Japan and made some highly interesting observation on the entire Japanese situation. The event was considered highly successful, not only because everyone had lots of fun, good food, and entertainment, but also from an educational viewpoint.

Lighting Counselors Hold Wartime Session

More than 150 "lighting counselors," most of whom were lighting service men and engineers from utility companies, from large manufacturing concerns, and from GE, attended the Spring war-time lighting course held at the General Electric Institute, Nela Park, Cleveland, May 10 to May 14.

The first two days of the course were devoted to lighting fundamentals, the next two to lighting applications, and the final day to infra-red and germicidal lamp applications.

Nearly fifty illustrated talks on a wide range of lighting subjects were delivered by Nela Park engineers. Serving as chairman for the 5-day session were the following Nela Park executives: Walter Sturrock; C. E. Weitz; Ward Harrison; A. B. Oday; and W. G. Darley.

Topics covered by speakers included these: Government limitations on lighting; Priorities; Lighting to minimize sabotage; Dimouts; Brownouts; Blackouts; Use of infra-red in war-plants, on farms and in homes.

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Meet industry's demands for radiant energy-heating and drying by featuring Nalco Dritherm Carbon Filament Lamps. Available in Inside-Silvered finish (no reflectors required) or in Clear Glass style.

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NORTH AMERICAN ELECTRIC LAMP COMPANY
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L. W. Long Appointed At Allis-Chalmers

L. W. Long has been appointed sales engineer in charge of mixed apparatus sales for the Allis-Chalmers Manufacturing Co. The appointment was made by the company in order to coordinate the sales of apparatus involving more than one division of the electrical department.

Mr. Long joined Allis-Chalmers in 1925 and until early last month served as sales engineer in the Pittsburgh office.

REA Gets Funds

Twenty-six REA cooperatives in 18 states received allocations totalling $1,790,000 recently through approval of the Department of Agriculture. Funds will be used to finance facilities already completed in accordance with WPB regulations, to acquire existing properties and to extend service to more than 1,000 farms producing livestock, dairy and poultry products.

It was emphasized that construction will be undertaken only in accordance with WPB regulations. Acquisition of some existing facilities will facilitate electrification of additional farms after the war.

The latest allocations bring the total for the year to $5,514,550, and the over-all total to $464,235,465.

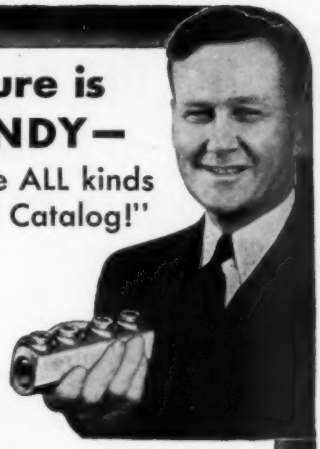
MORE FACTS ON PRODUCTS

Distribution Systems—Revised bulletin 2500 describes, illustrates, and points out the particular features of the Saflex power distribution panelboards manufactured by the Square D Company, Detroit, Michigan.

When writing mention WHOLESALER'S SALESMAN

Electrical Equipment—The Ilsco Copper Tube and Products Co., Cincinnati, Ohio, manufacturers of solderless connectors, ground rod clamps, solderless terminal lugs, fuse clips, lugs for automotive cables, etc., has available a 32-page catalog describing and illustrating the company's line of products.

When writing mention WHOLESALER'S SALESMAN



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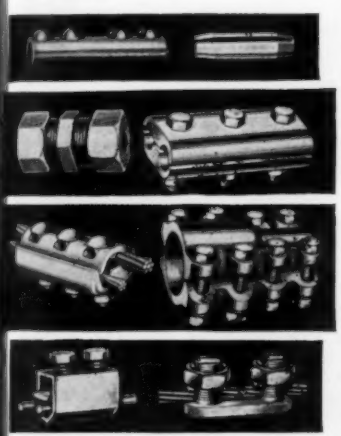

Also . . . the most complete line of Service Connectors, Tee Connectors, Cable Taps . . . Elbow and Cross Connectors . . . Bus Supports, Clamps, Spacers . . . Grounding Clamps, Terminal Lugs.

Penn-Union connectors are the first choice of leading utilities, industrials, electrical manufacturers and contractors—because they have found that *"Penn-Union" on a fitting is their best guarantee of Dependability.*

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ERIE, PA. *Sold by Leading Jobbers*

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Conductor Fittings

Fluorescent Lighting—Six-page bulletin describing the non-metallic reflectors and the new portable fluorescent bench unit manufactured by R. & W. Wiley, Inc., Buffalo, N. Y., also includes a war supplementary price list of the company's various industrial fixtures.

When writing mention WHOLESALER'S SALESMAN

Infra-Red Drying Equipment—In a recent 12-page booklet published by the Fostoria Pressed Steel Corp. of Fostoria, Ohio, the company describes the infra-red process used for baking, drying, dehydrating, and preheating as a method of conserving time, space, manpower, energy and materials.

When writing mention WHOLESALER'S SALESMAN

Infra-Red Drying Lamps—Bulletin 78 describes the Nalco carbon filament lamps for infra-red drying, baking and dehydrating manufactured by the North American Electric Lamp Company, St. Louis, Mo., also includes many photos of typical applications.

When writing mention WHOLESALER'S SALESMAN

Wiring Devices—Colorful 20-page booklet issued by Pass & Seymour, Inc., Syracuse, N. Y., contains elaborate drawings tying in the company's products with scenes "from the battle front" and group photos of the company's personnel representing "the home front."

When writing mention WHOLESALER'S SALESMAN

Wiring Systems—Twenty-page catalog, No. 143, published by Pierce Laboratory, Inc., Summit, N. J., describes the company's plastic duct wiring systems including photos of typical installations and information on shipping and billing instructions.

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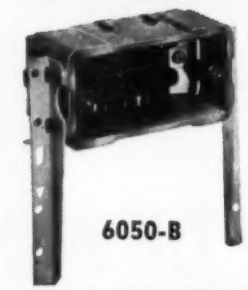

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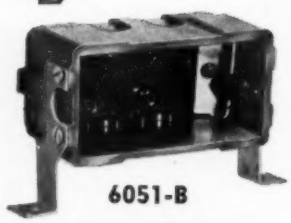

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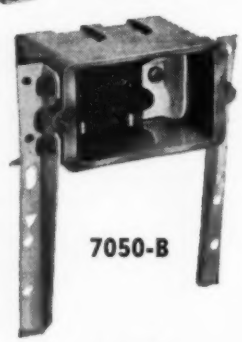

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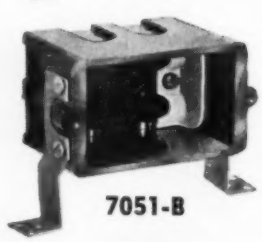

7051-B

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